**ASSIGNMENT 2**

**BIT 302**

**Software Engineering**

****

**Project Proposal**

**Covid Testing Information System (CTIS)**

**Prepared by:**

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2021/2022

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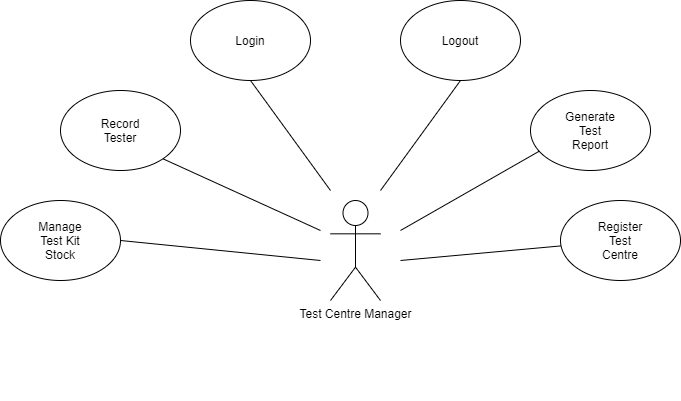
Introduction

Coronavirus or SARS-CoV-2 is a virus that attacks the respiratory system. This disease due to viral infection is called COVID-19. This virus causes minor respiratory problems, lung infections, and death. This virus can attack the elderly, children, adults, babies, pregnant women, and nursing mothers. This virus spreads very quickly and has spread to almost all countries including Indonesia in just a few months.

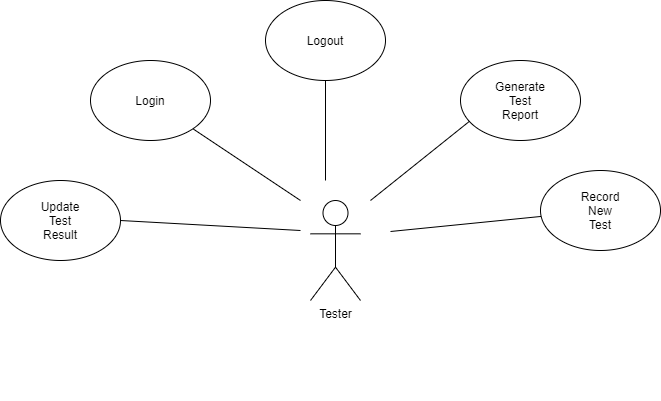
During a pandemic, hundreds to millions of people tested positive for Covid. Medical staff and medical centers have difficulties with the number of patients who have to be controlled and registered as suspended, quarantine, and patients who have recovered.

Therefore, we created the CTIS (Covid Testing Information System) website to help medical centers control and record test results from Covid patients. Also, we plan to create this website to be able to help patients track their status history and get information about Covid. The duration of making this application is 3 months to complete this application and duration of making this assignment 2 is 1 month.

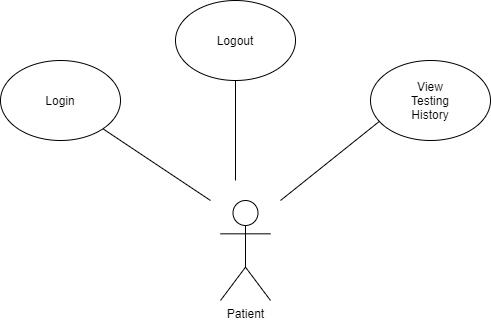
# Use Case Diagram



Use Case Diagram with Actor Test Centre Manager

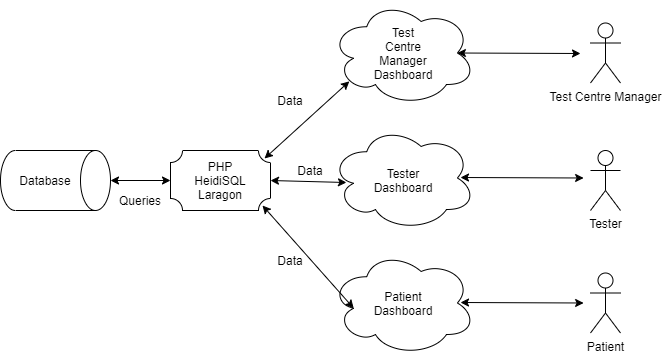


Use Case Diagram with Actor Tester

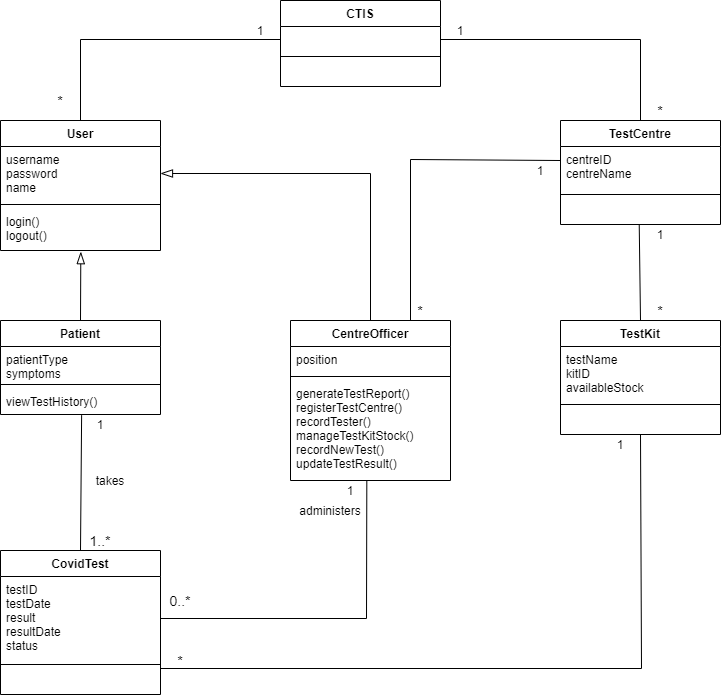


Use Case Diagram with Actor Patient

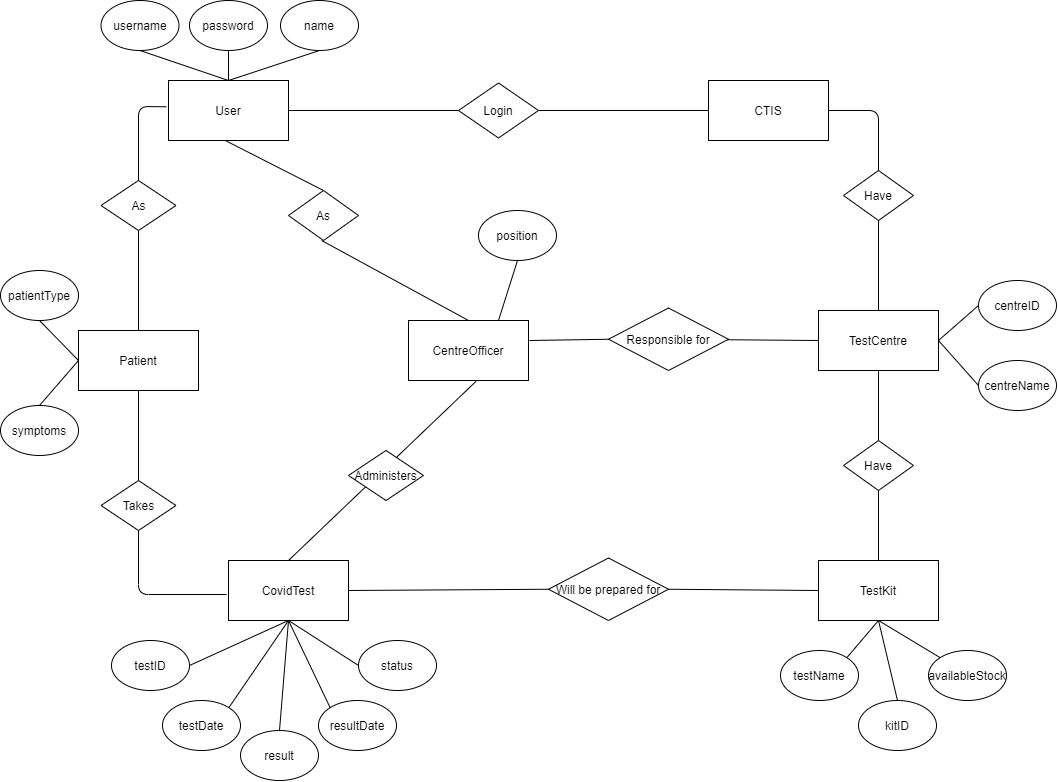
Architectural Design



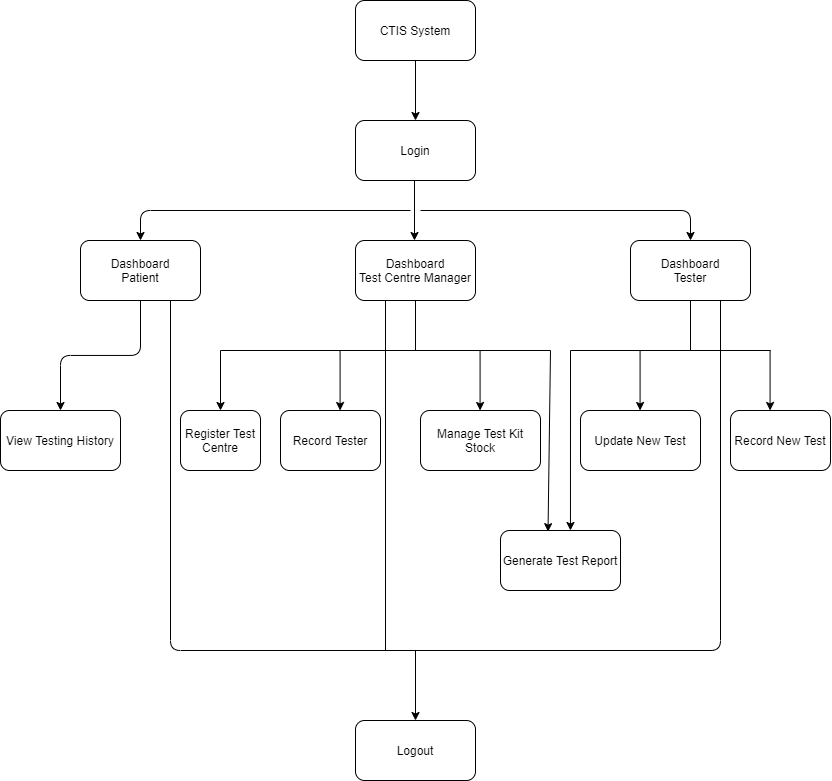
Design Class Diagram



Entity Relationship Diagram (ERD)

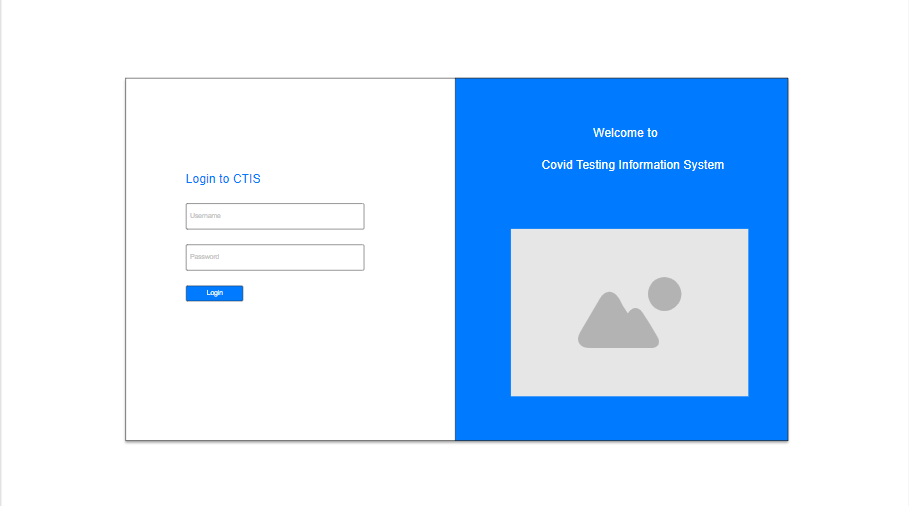


Sitemap

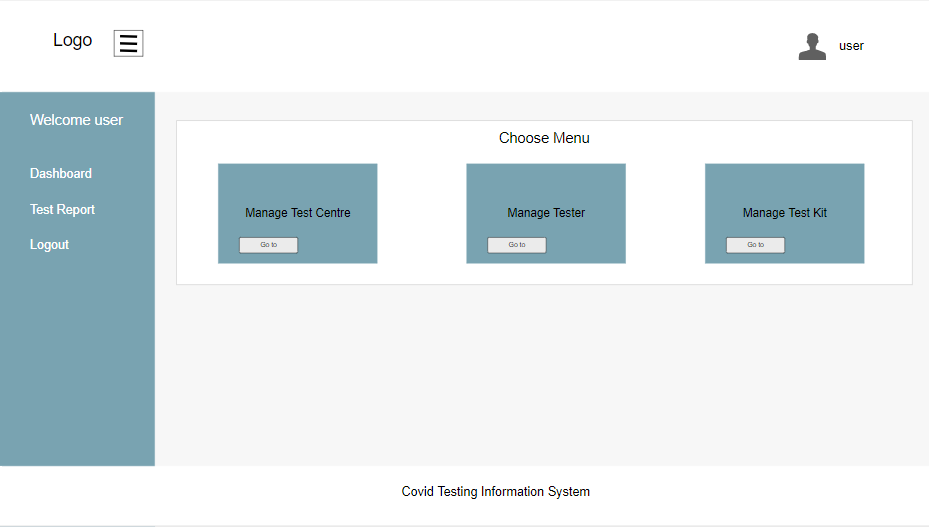


Wireframe

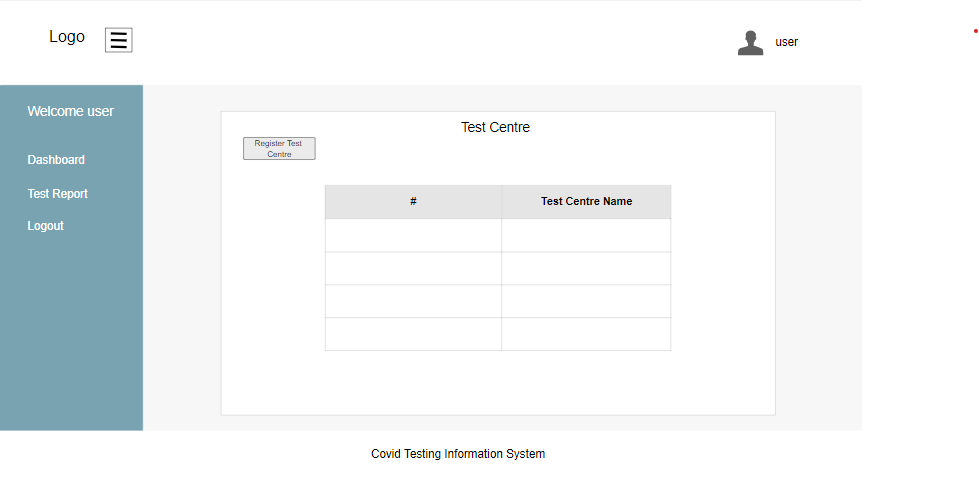
Login



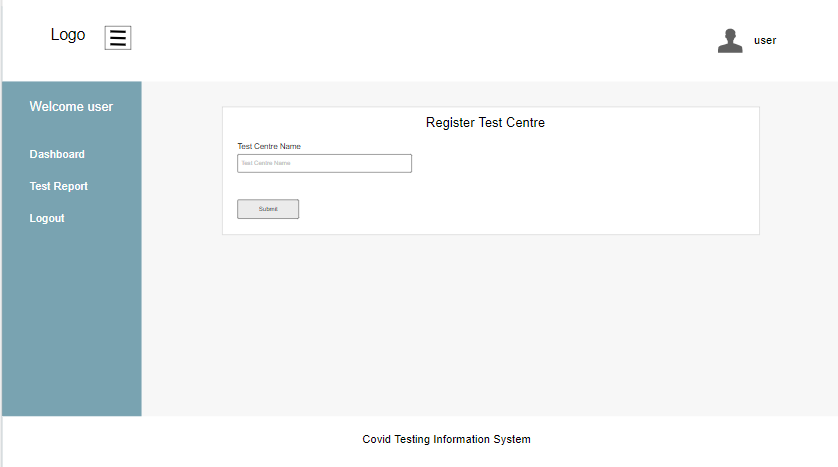
Test Centre Manager Dashboard



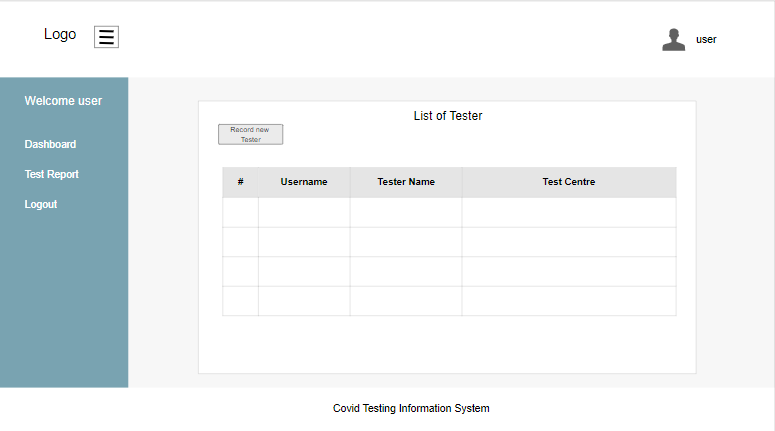
Manage Test Centre Page



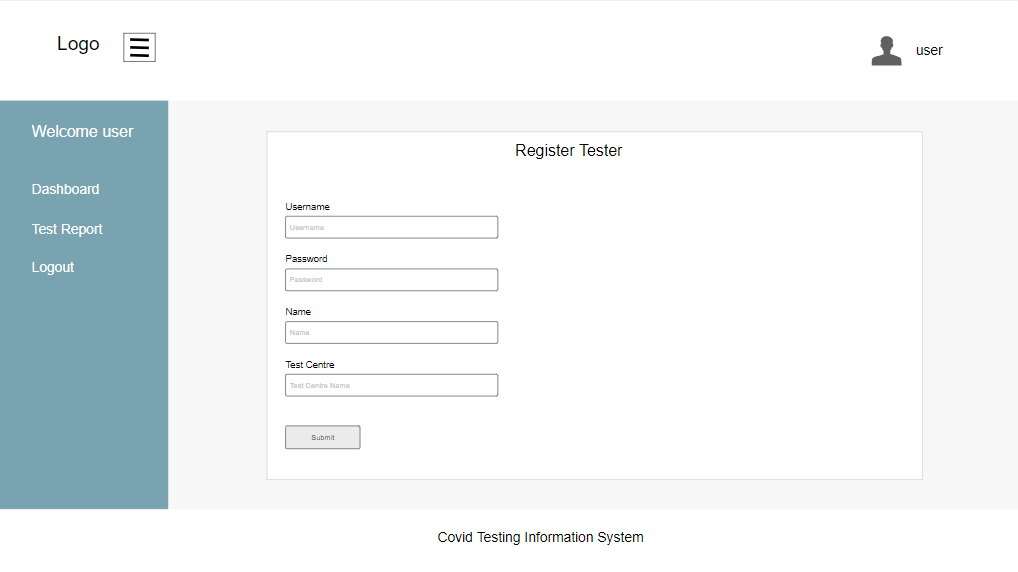
Register Test Centre Page



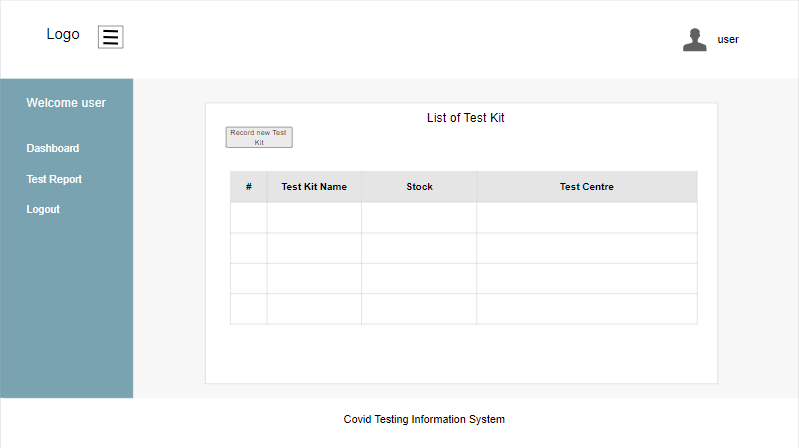
Manage Tester Page



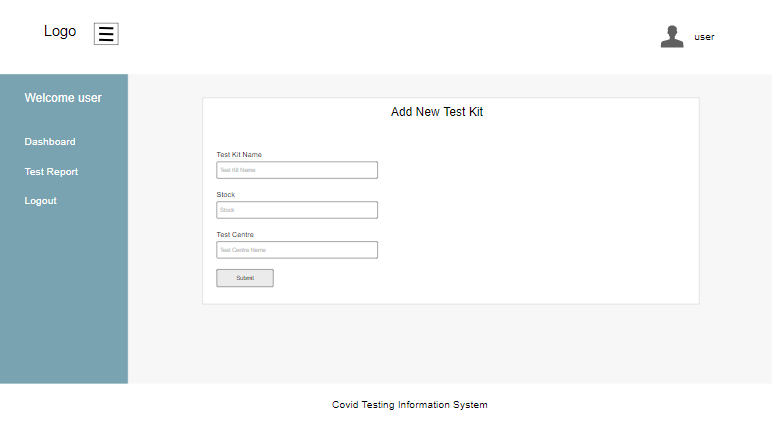
Record Tester Page



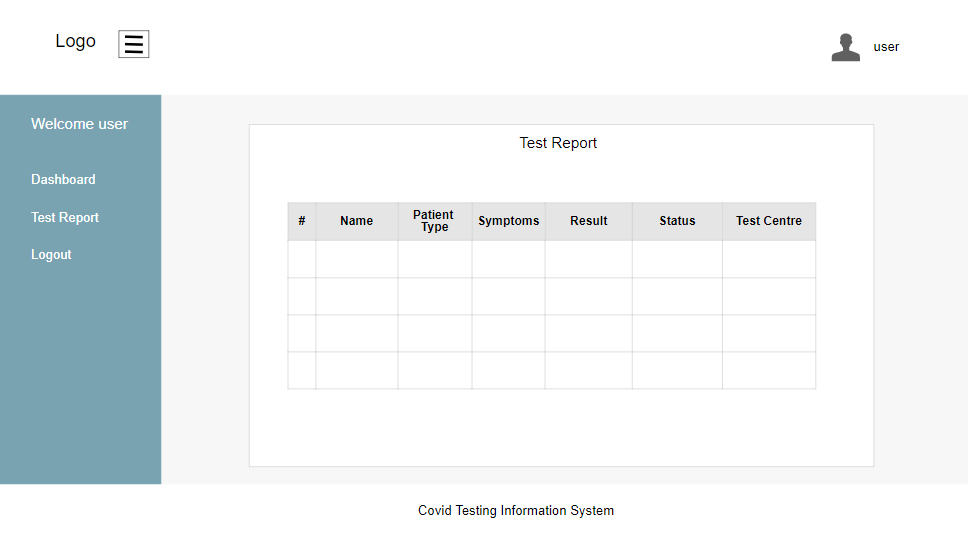
Manage Test Kit Stock



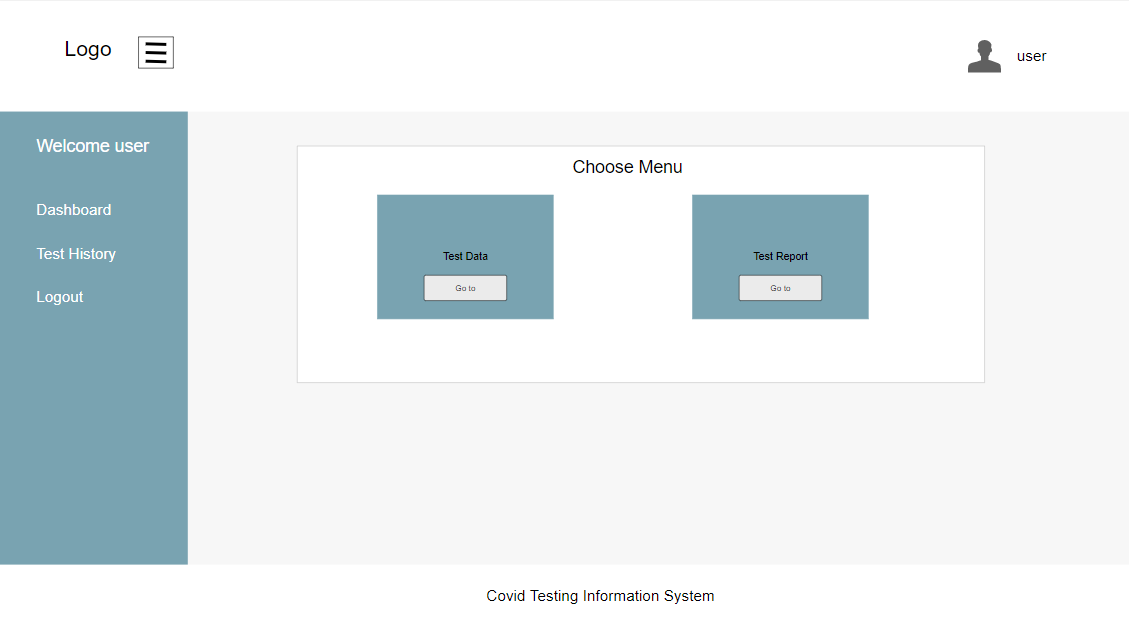
Record New Test Kit



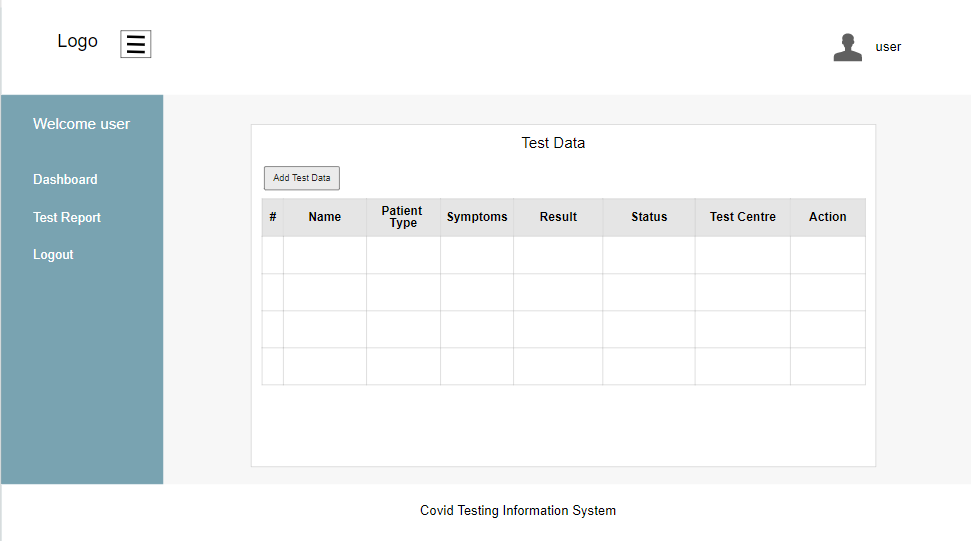
Generate Test Report



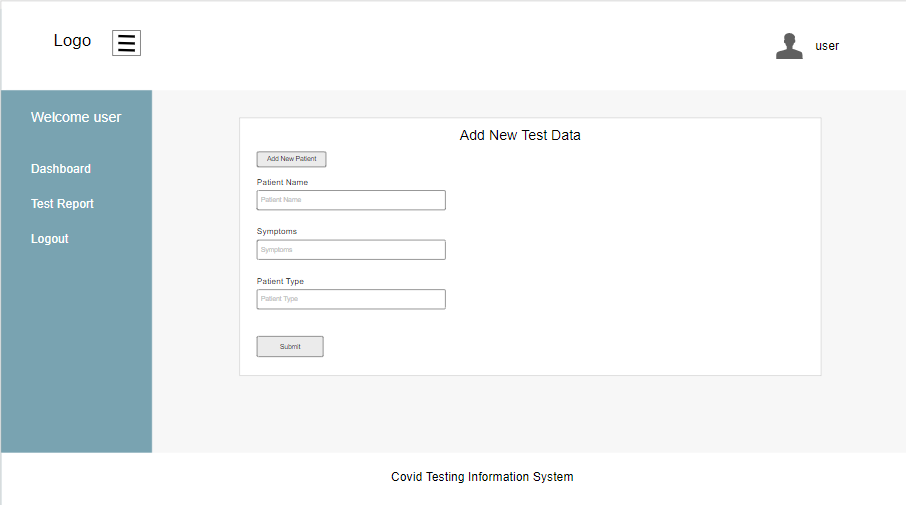
Tester Dashboard



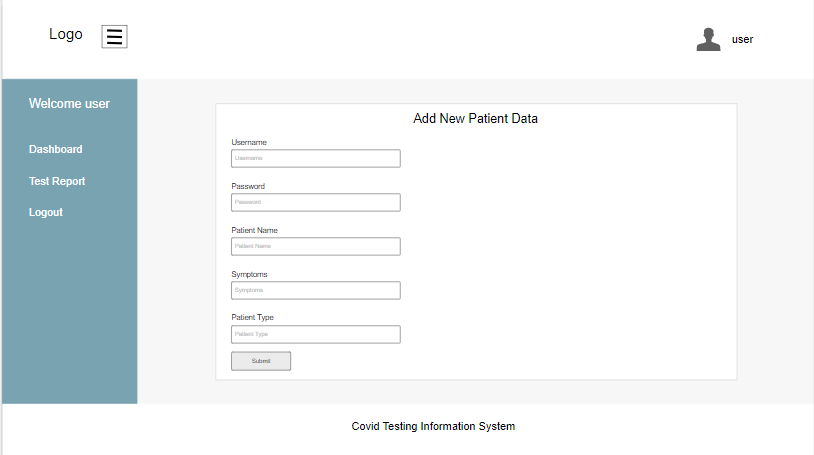
List Test Data Page



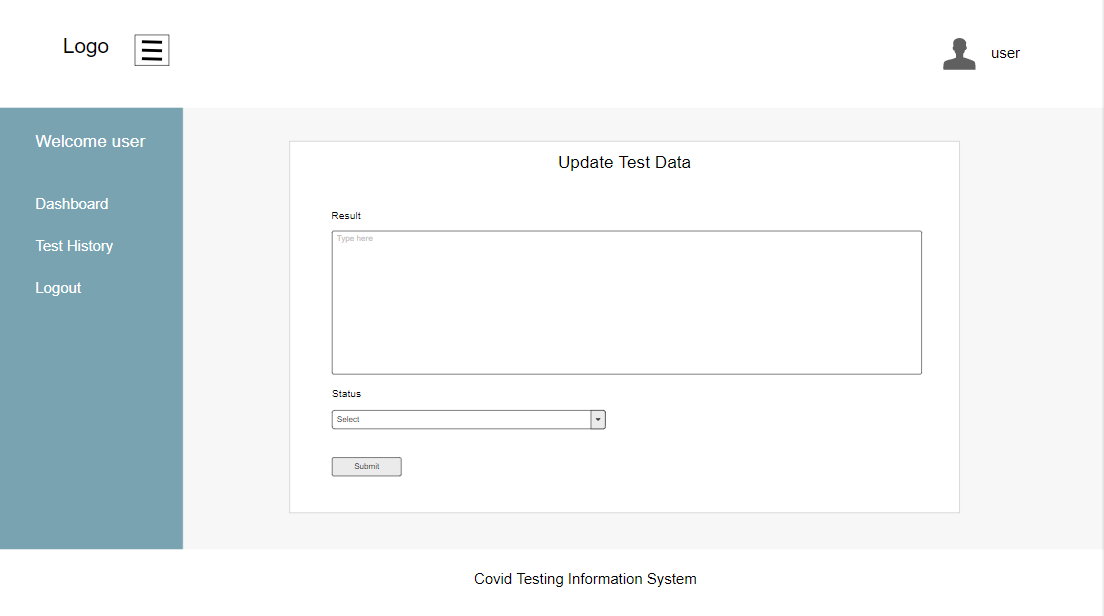
Record New Test Data



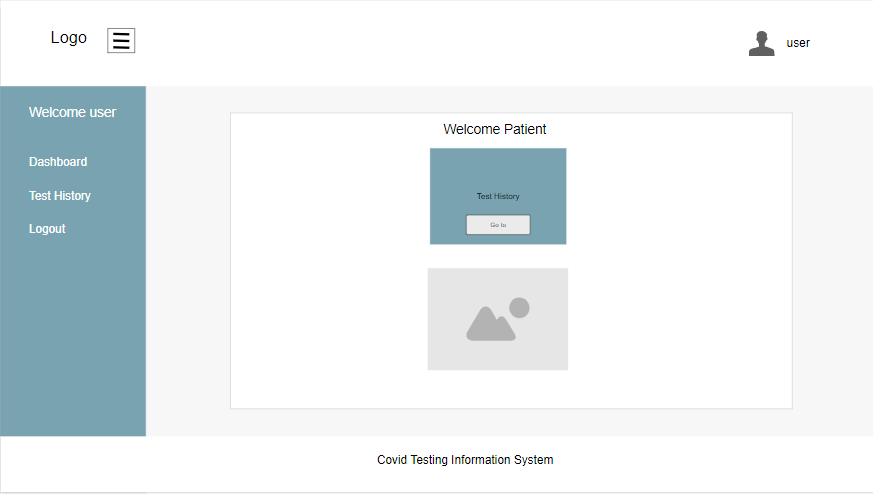
Record New Patient Data



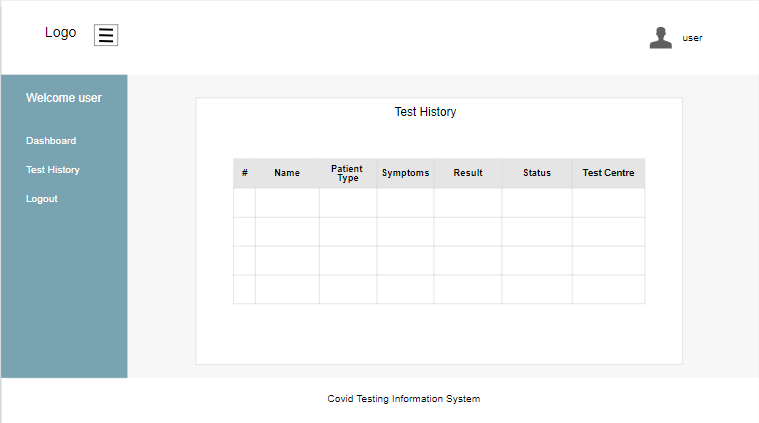
Update Test Result



Patient Dashboard

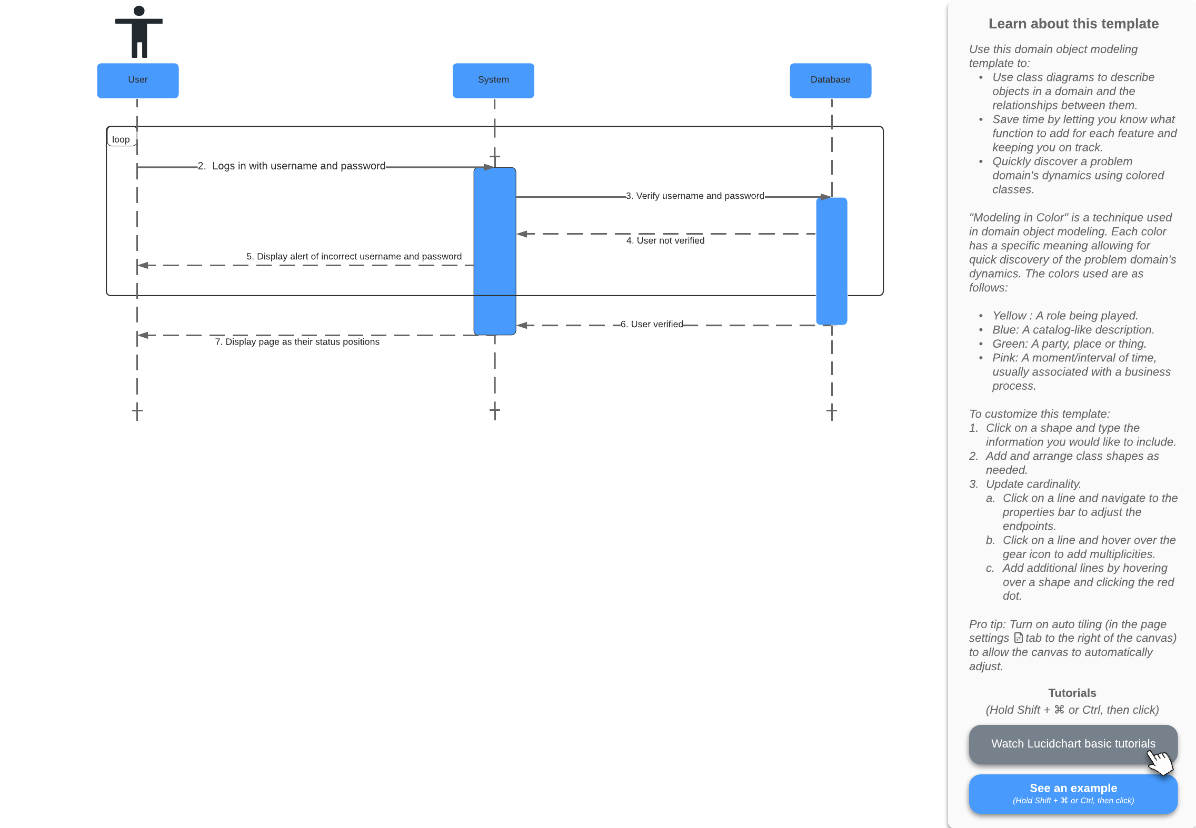


View Testing History Page



System Sequence Diagram + Contracts

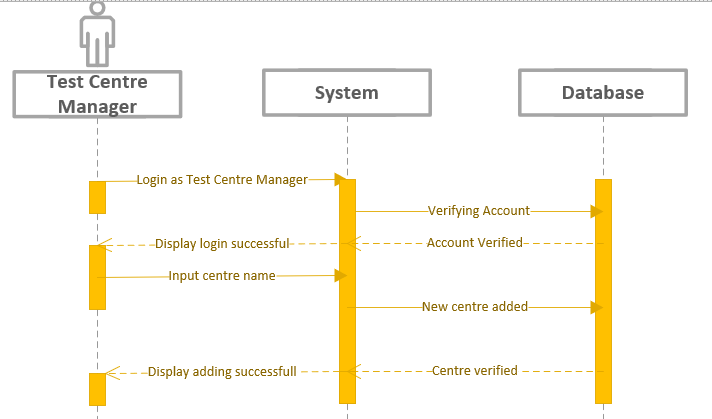
1. Log In



Prepared by: Pande Putu Rama Pratama Putra

|  |  |
| --- | --- |
| **Cross References** | **Login** |
| **Operation** | Login |
| **Responsible** | To display page as their status positions |
| **Pre-conditions** | * The username of user must be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database * Successfully displayed page as their status positions |

2. Register Test Centre

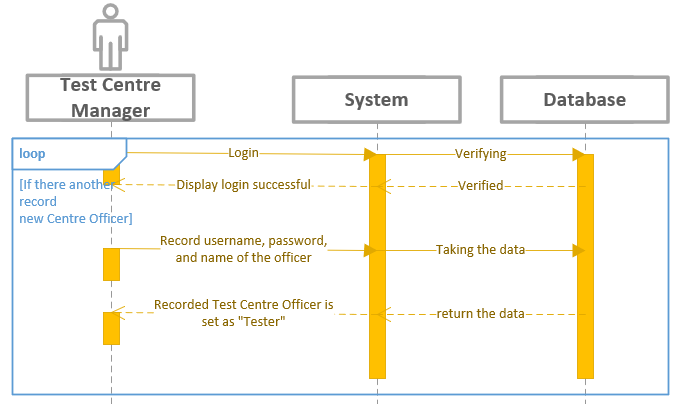


Prepared by: I Nengah Wahyudi Setiawan

|  |  |
| --- | --- |
| **Cross References** | **Register Test Centre** |
| **Operation** | Login |
| **Responsible** | To get access to page of test centre manager |
| **Pre-conditions** | * The username of user must be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database |

|  |  |
| --- | --- |
| **Cross References** | **Register Test Centre** |
| **Operation** | Input Centre Name |
| **Responsible** | To Register Test Centre |
| **Pre-conditions** | * Name of the Test Centre must be available |
| **Post-conditions** | * Test Centre’s name are successfully registered |

3. Record Tester

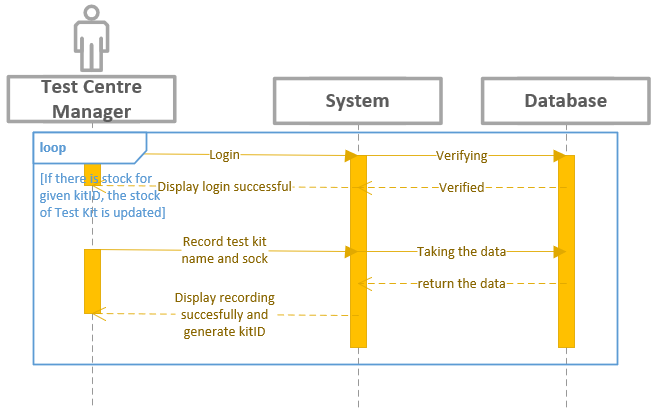


Prepared by: I Nengah Wahyudi Setiawan

|  |  |
| --- | --- |
| **Cross References** | **Record Tester** |
| **Operation** | Login |
| **Responsible** | To get access page of test centre manager |
| **Pre-conditions** | * The username of user must be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database |

|  |  |
| --- | --- |
| **Cross References** | **Record Tester** |
| **Operation** | Set and record the centre officer position as “Tester” |
| **Responsible** | To set the centre officer’s position to “Tester” |
| **Pre-conditions** | * The username of centre officer must be matched in database * The password of centre officer must be matched in database * The name of centre officer must be matched in database |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database * Name are matched based on user’s name in database * Positions status of the centre officer changed to “Tester” |

4. Manage Test Kit Stock

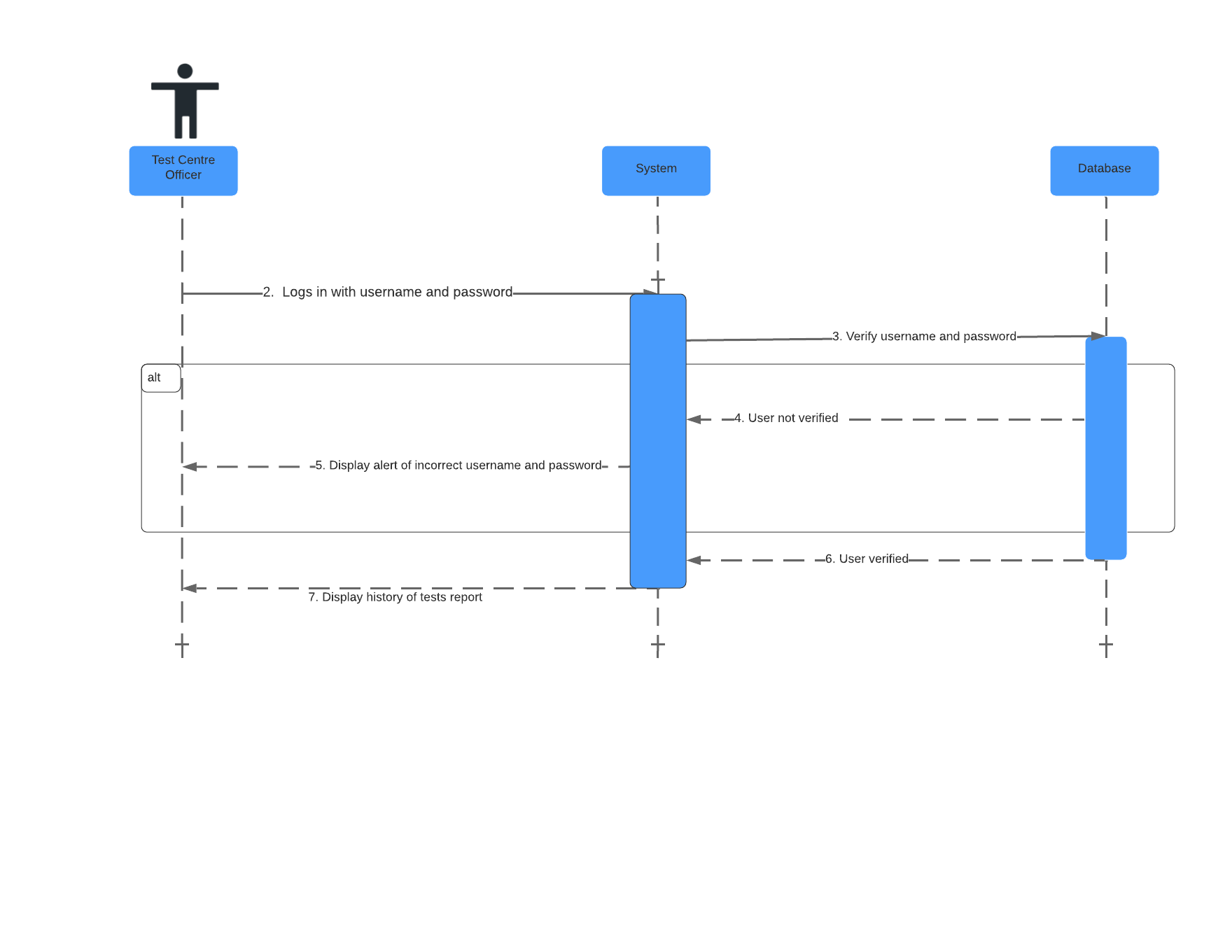


Prepared by: I Nengah Wahyudi Setiawan

|  |  |
| --- | --- |
| **Cross References** | **Manage Test Kit Stock** |
| **Operation** | Login |
| **Responsible** | To get access page of test centre manager |
| **Pre-conditions** | * The username of usermust be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database |

|  |  |
| --- | --- |
| **Cross References** | **Manage Test Kit Stock** |
| **Operation** | Record test kit |
| **Responsible** | To update test kit name and stock |
| **Pre-conditions** | * The name of test kit must available to record * The stock must know many available to record |
| **Post-conditions** | * Name of the test kit and stock are recorded and generate kitID |

5. Generate Test Report

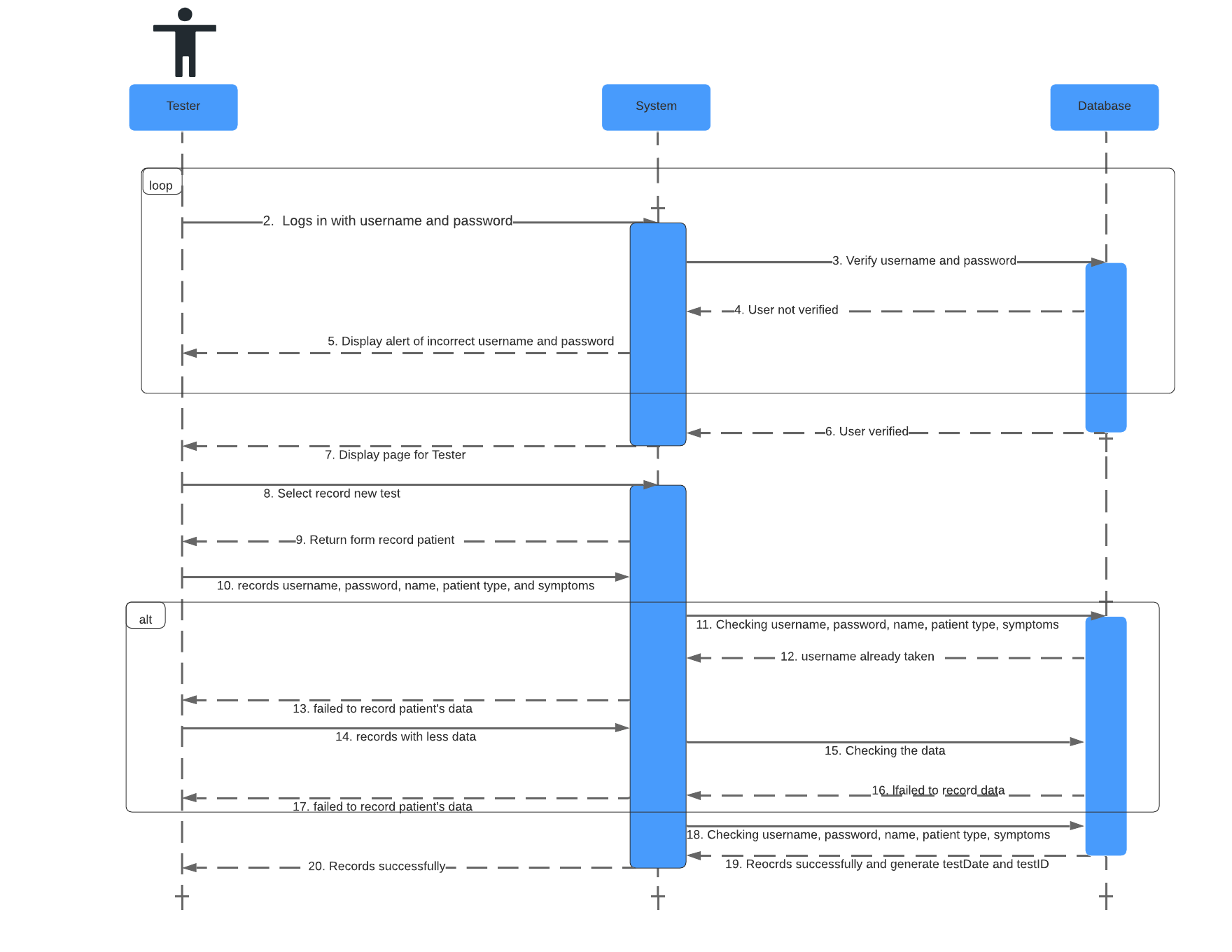


Prepared by: Pande Putu Rama Pratama Putra

|  |  |
| --- | --- |
| **Cross References** | **Generate Test Report** |
| **Operation** | Login username and password |
| **Responsible** | To get access page of test centre officer |
| **Pre-conditions** | * The username of user must be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database |

|  |  |
| --- | --- |
| **Cross References** | **Generate Test Report** |
| **Operation** | Display all history report |
| **Responsible** | To view all history of the report |
| **Pre-conditions** | * The report object must be available |
| **Post-conditions** | * All the report that administered is shown |

6. Record New Test



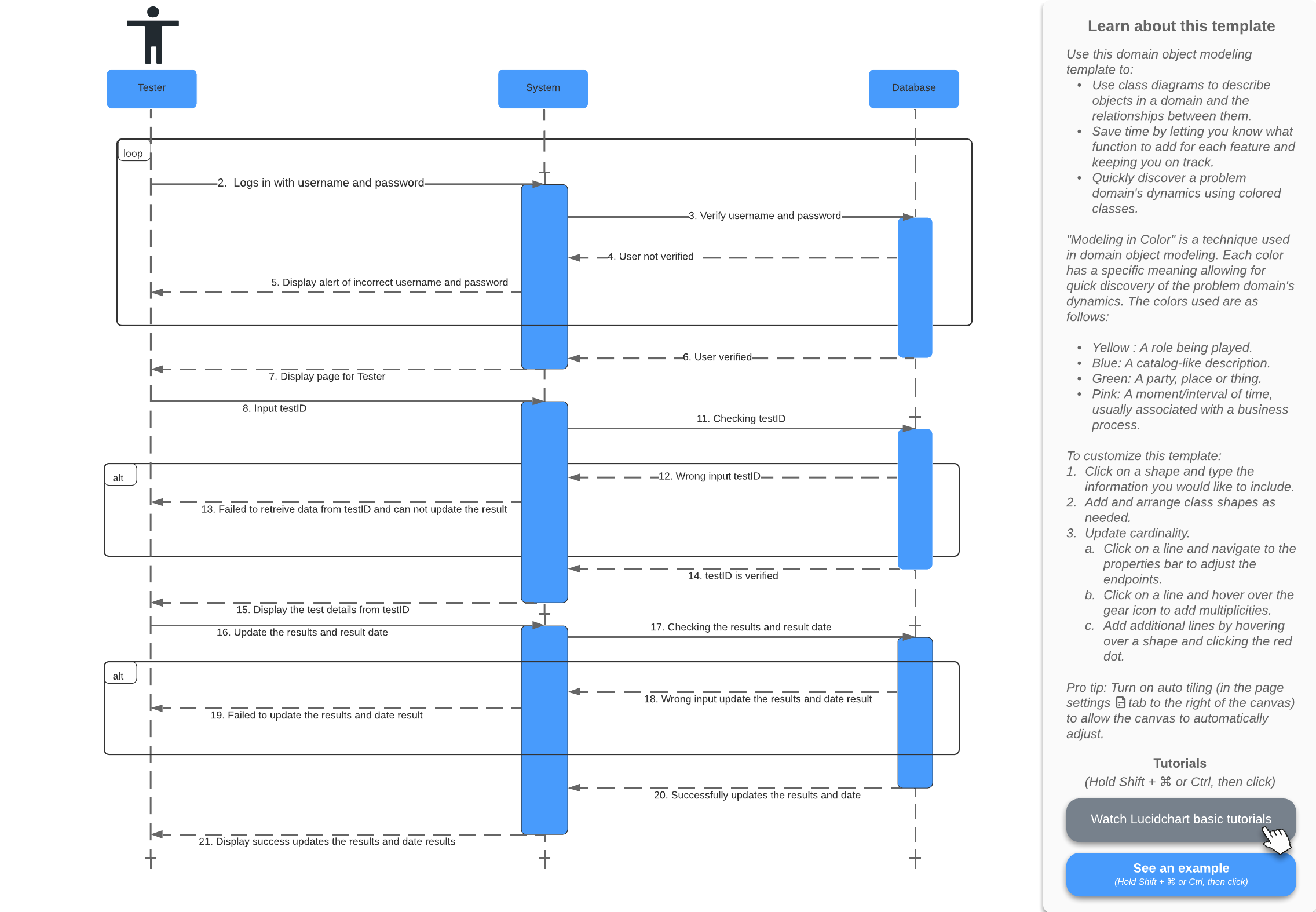
Prepared by: Pande Putu Rama Pratama Putra

|  |  |
| --- | --- |
| **Cross References** | **Record New Test** |
| **Operation** | Login username and password |
| **Responsible** | To get access page of tester |
| **Pre-conditions** | * The username of user must be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database |

|  |  |
| --- | --- |
| **Cross References** | **Record New Test** |
| **Operation** | Select record new test |
| **Responsible** | To get form of new test |
| **Pre-conditions** | * The form object must be available |
| **Post-conditions** | * Succesfully displayed form of new test |

|  |  |
| --- | --- |
| **Cross References** | **Record New Test** |
| **Operation** | Records username, password, name, patient type, and symptoms |
| **Responsible** | To record data of the patient |
| **Pre-conditions** | * The data object must be available |
| **Post-conditions** | * Succesfully record data of the patients * Successfully generate date of test and testID |

7. Update Test Result



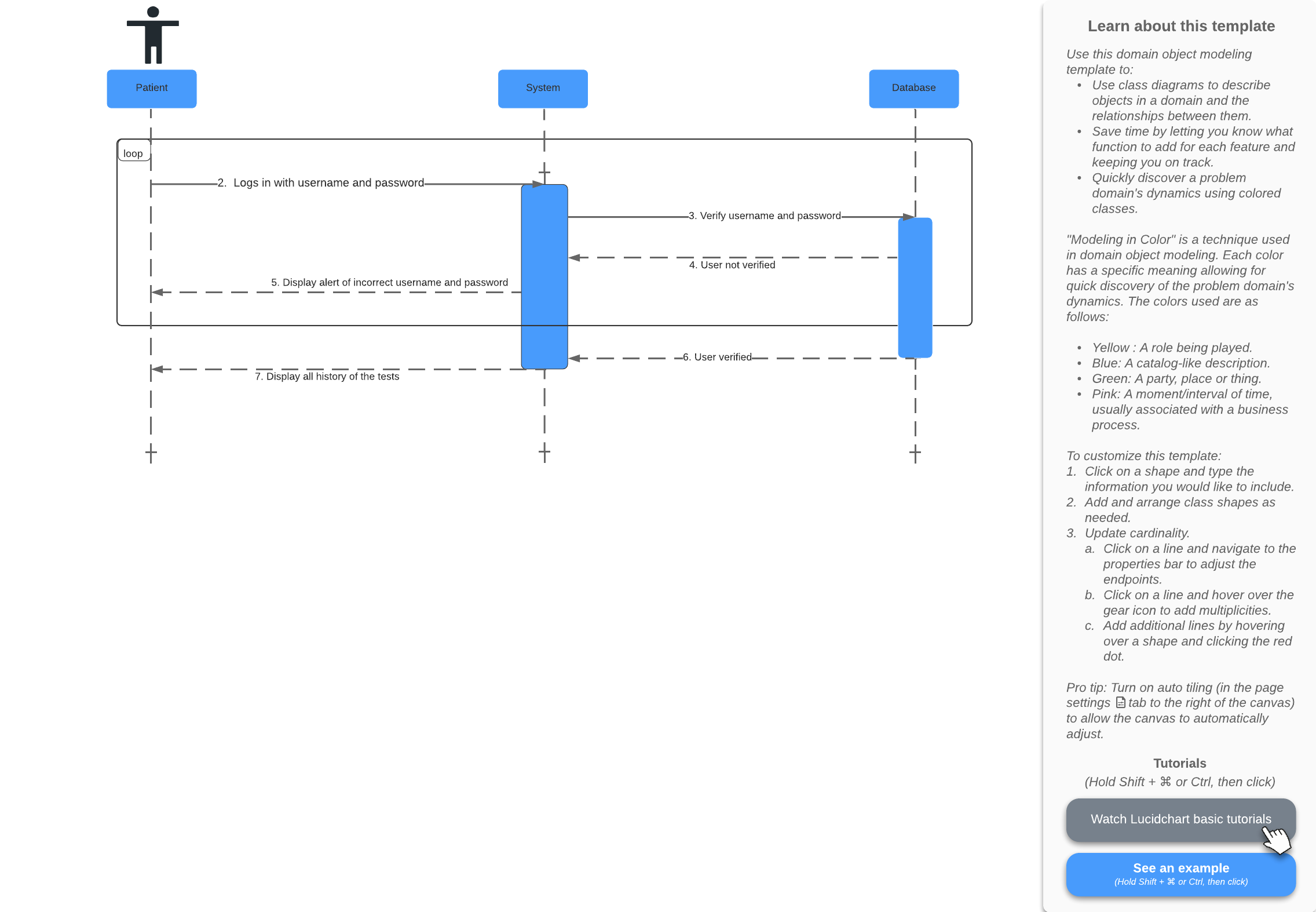
Prepared by: Pande Putu Rama Pratama Putra

|  |  |
| --- | --- |
| **Cross References** | **Update Test Results** |
| **Operation** | Login username and password |
| **Responsible** | To get access page of tester |
| **Pre-conditions** | * The username of user must be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database |

|  |  |
| --- | --- |
| **Cross References** | **Update Test Results** |
| **Operation** | Input testID |
| **Responsible** | To get data test from testID |
| **Pre-conditions** | * The testID object must be available |
| **Post-conditions** | * Successfully display test details from testID |

|  |  |
| --- | --- |
| **Cross References** | **Update Test Results** |
| **Operation** | Input date of test and result test |
| **Responsible** | To update the result of the test |
| **Pre-conditions** | * The date of test and result object must be available |
| **Post-conditions** | * Successfully update date of test and result test |

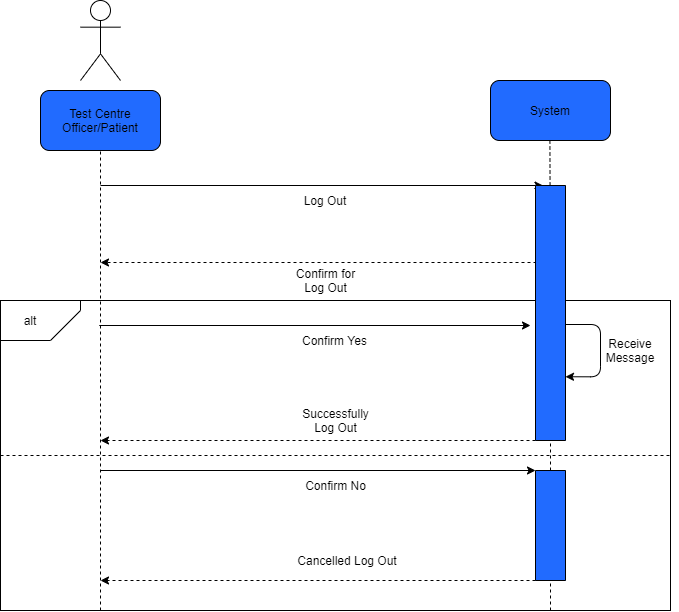
8. View Testing History



Prepared by: Pande Putu Rama Pratama Putra

|  |  |
| --- | --- |
| **Cross References** | **View Testing History** |
| **Operation** | Login username and password |
| **Responsible** | To display all history of the tests |
| **Pre-conditions** | * The username of user must be available * The password of user must be available |
| **Post-conditions** | * Username are matched according to names in database * Password are matched based on user’s password in database * Successfully displayed all history of the tests |

9. Log Out

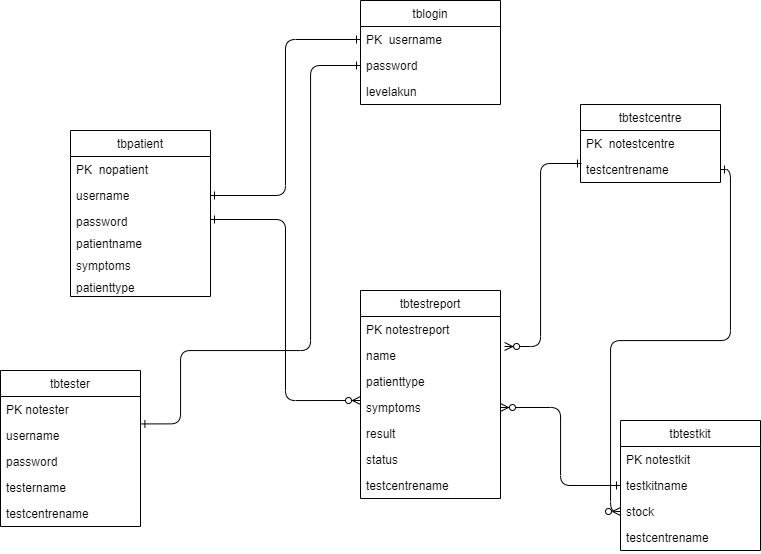


Prepared by: Pande Putu Rama Pratama Putra

|  |  |
| --- | --- |
| **Cross References** | **Logout** |
| **Operation** | Log Out User |
| **Responsible** | To log out user profile test centre officer / patient from system |
| **Pre-conditions** | * The user confirm yes to log out from system |
| **Post-conditions** | * The user successfully log out |

|  |  |
| --- | --- |
| **Cross References** | **Logout** |
| **Operation** | Cancel Log Out User |
| **Responsible** | To cancel log out user profile test centre officer / patient from system |
| **Pre-conditions** | * The user confirm no to log out from system |
| **Post-conditions** | * The user cancelled log out |

Database Design



Iteration 1

Use Case

|  |  |  |
| --- | --- | --- |
| Use Case | Developed By | Testing |
| Login | Rama | Iteration 1 |
| Log Out | Rama | Iteration 1 |
| Generate Test Report (Test Centre Officer) | Rama | Iteration 1 |
| Register Test Centre (Test Centre Manager) | Wahyudi | Iteration 1 |
| Record Tester (Test Centre Manager) | Wahyudi | Iteration 1 |
| Manage Test Kit Stock (Test Centre Manager) | Wahyudi | Iteration 1 |
| Record New Test (Tester) | Rama | Iteration 1 |
| Update Test Result (Tester) | Rama | Iteration 1 |
| View Testing History (Patient) | Rama | Iteration 1 |

Test Objectives

The objective of testing this system is to find bug and error in the application. With testing, it will build application that be very robust and can run smoothly. Altough, we still build-and-testing for make user that can use the application easily and user-friendly. Beside for finding bug and error, the objective of testing is, we can analyze the system and we can put more features for this application.

Our first objective on CTIS system is to make sure the user can login successfully and encrypted with encryption provided by the framework that we use to work. After that, we test the application(the pages) to ensure that working properly. Beside the pages, we also test all the links, button, etc are work properly and directing to the right pages. We test the system according to the role:

* As Test Centre Manager and Tester, user should be able to do basic Create, Read, Update, Delete (CRUD) operation in the system on certain object, like test centre, test kit, test report, etc.
* As Patient, user should be able to view data only to his role and application, like test history.

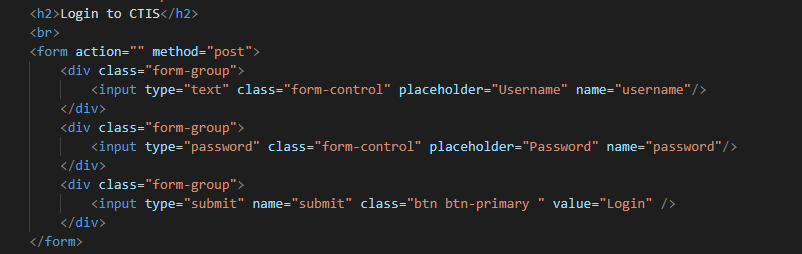
Test Plan

For the information system, we will be testing Login system, so that Test Centre Manager, Tester, and Patient will directed to their own dashboard page. Beside that, we also testing functions that will be performed by Test Centre Manager, Tester, and Patient. We want to make sure that system boundaries are working properly, like Patient can only view the data and can not edit or delete data.

Unit Testing

1. Login

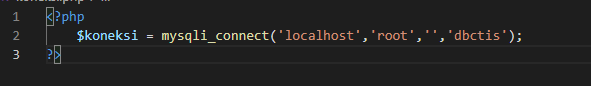
This is login function that user can log in as their positions. And it will direct to their own dashboard page



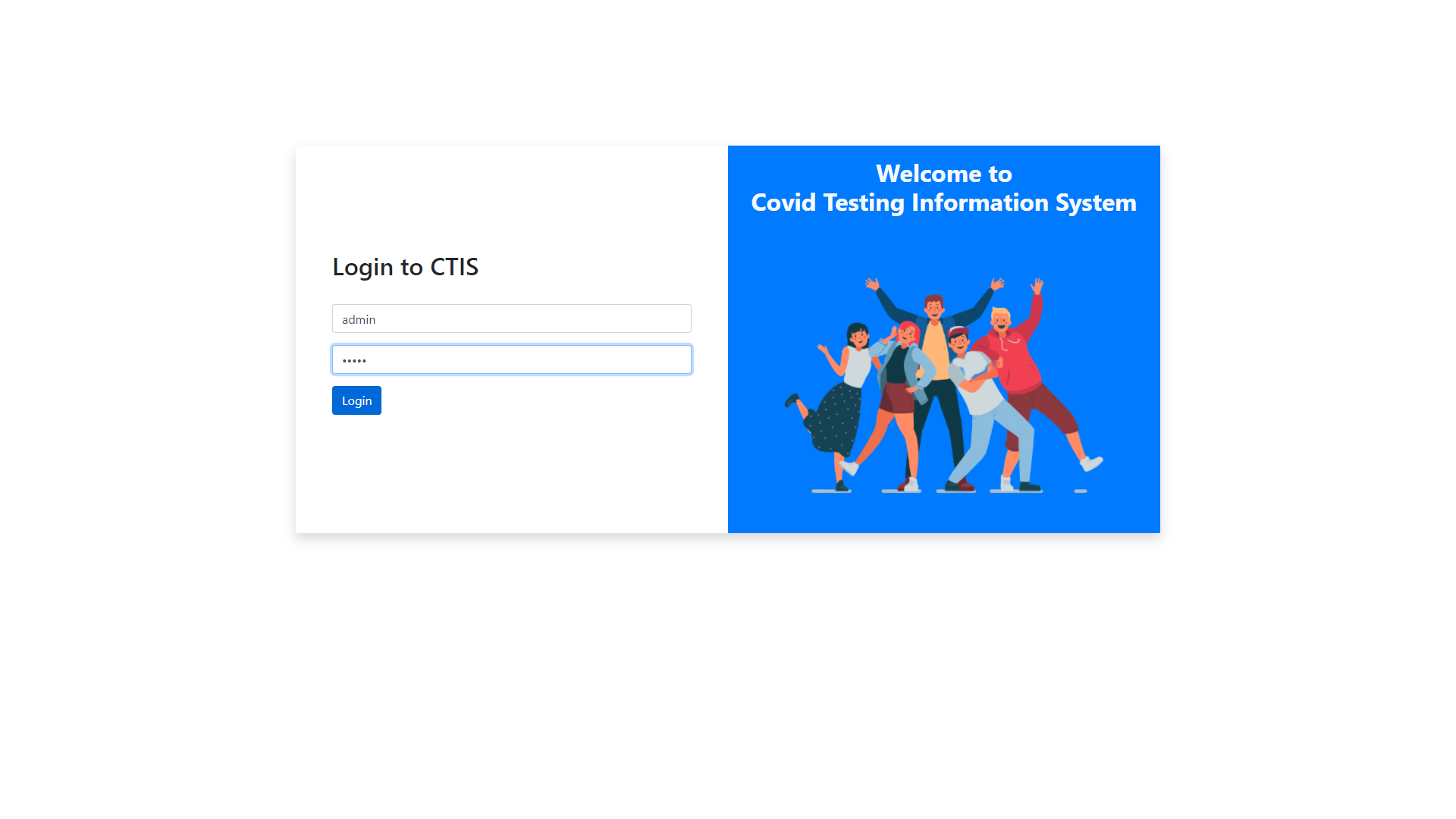
This function is use to validate input from user when log in. If the username and password are not registered or wrong input, it will display message error.



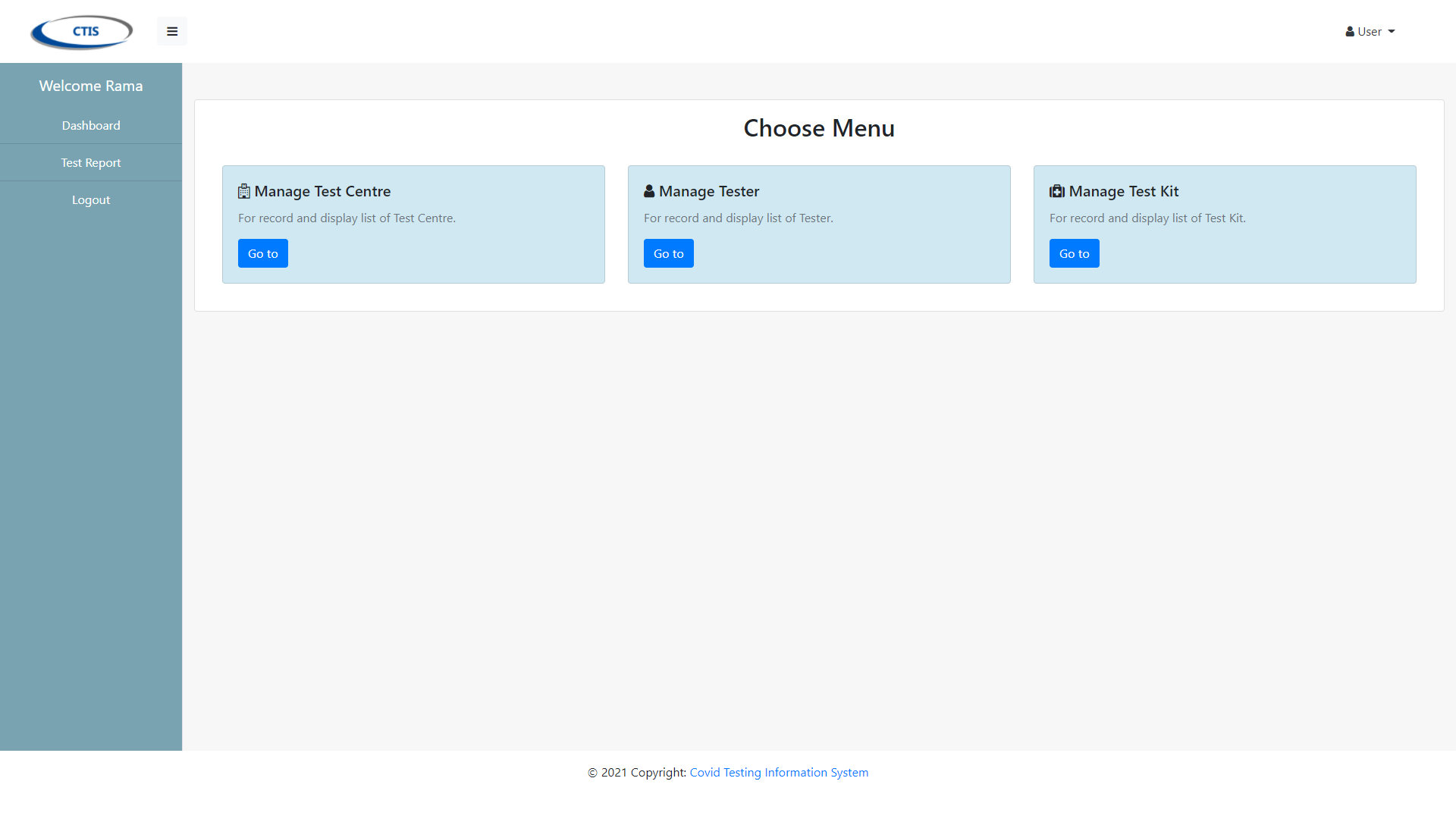
This function is use to connect to database localhost



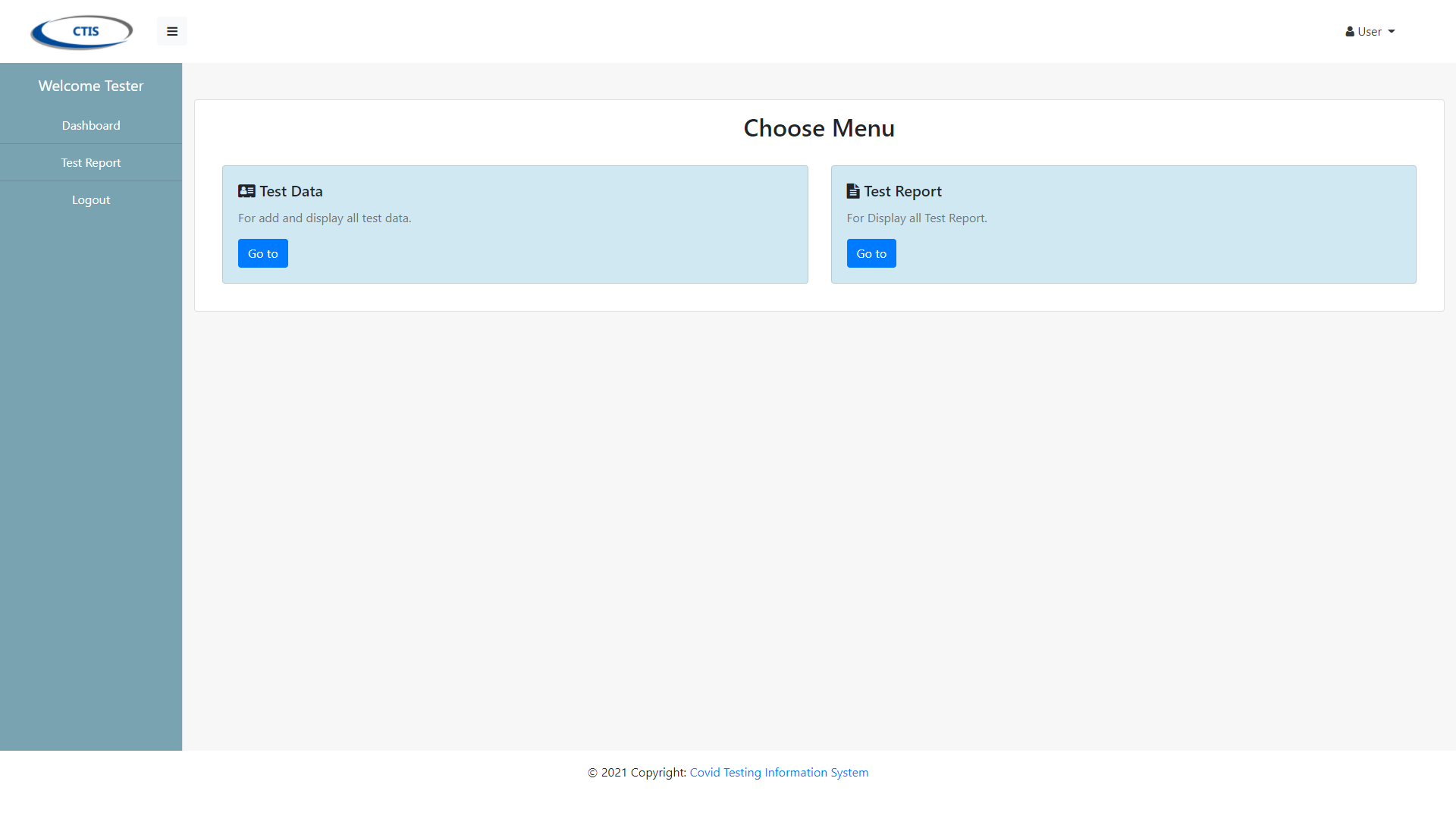
This is Log in Page



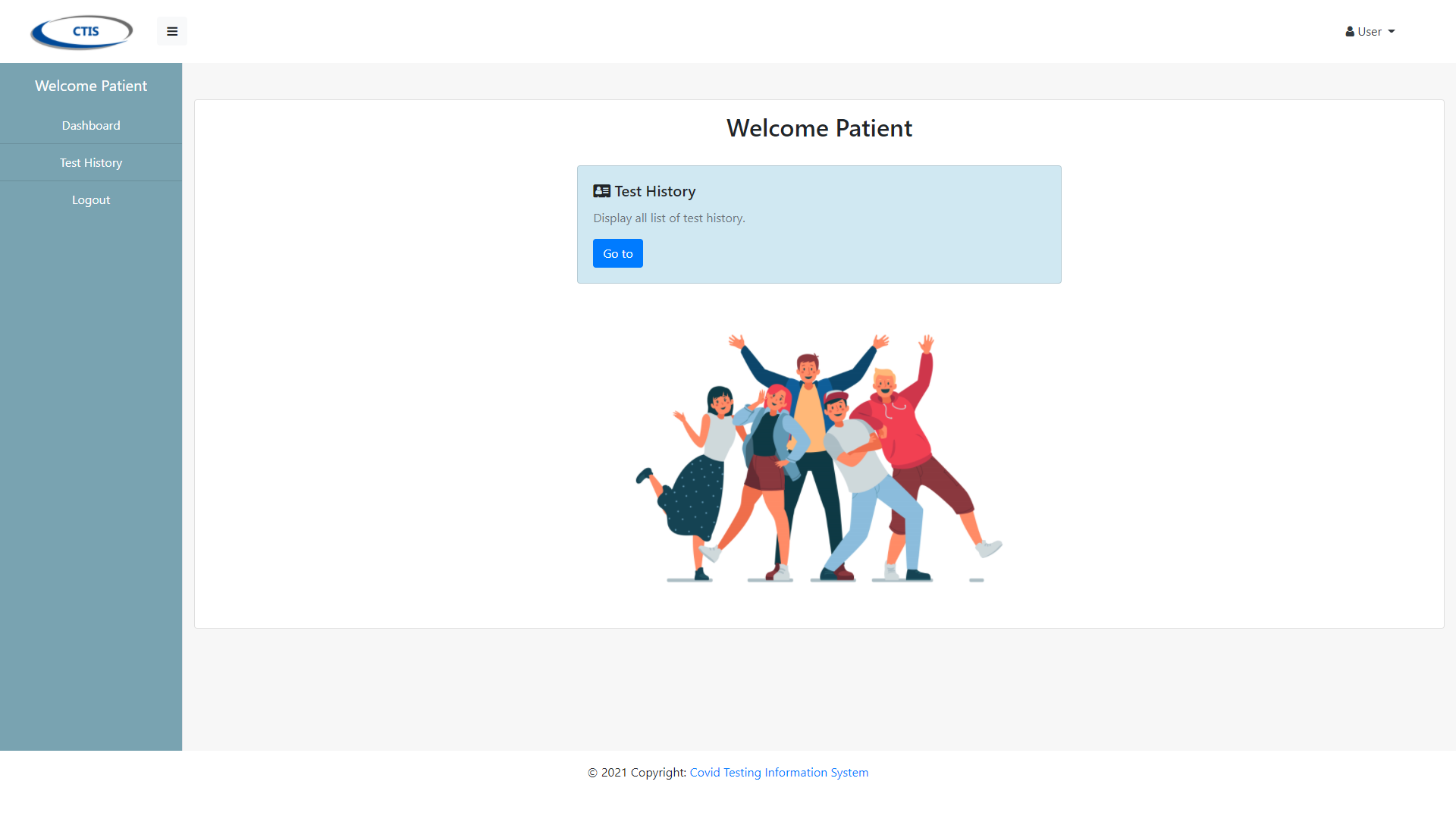
This is Test Centre Manager’s Dashboard



This is Tester’s Dashboard

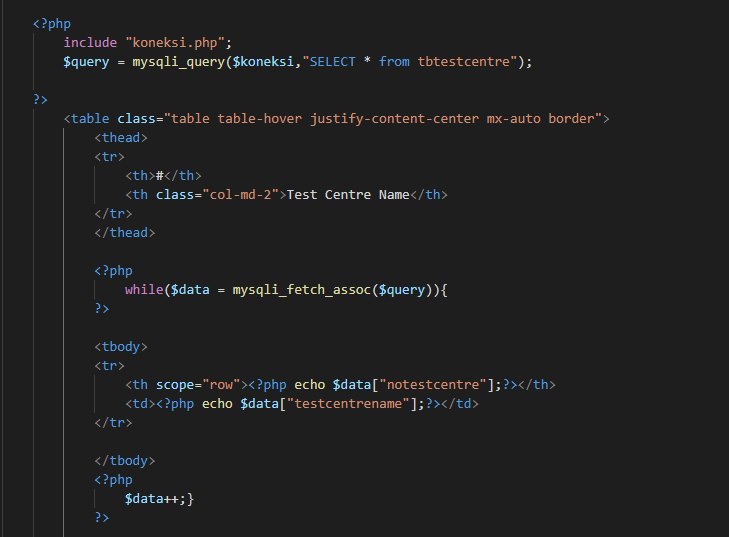


This is Patient’s Dashboard

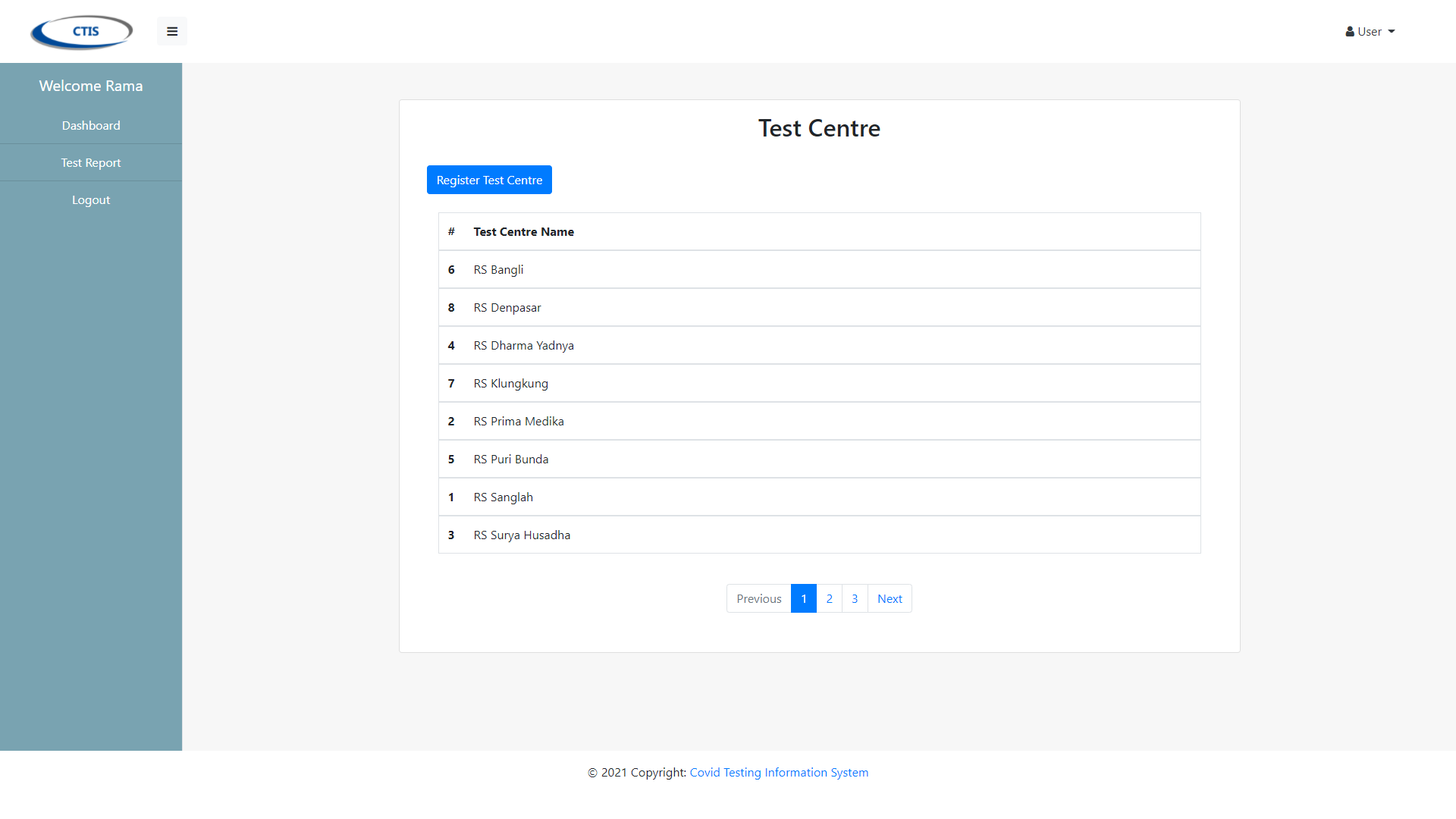


2. Manage Test Centre

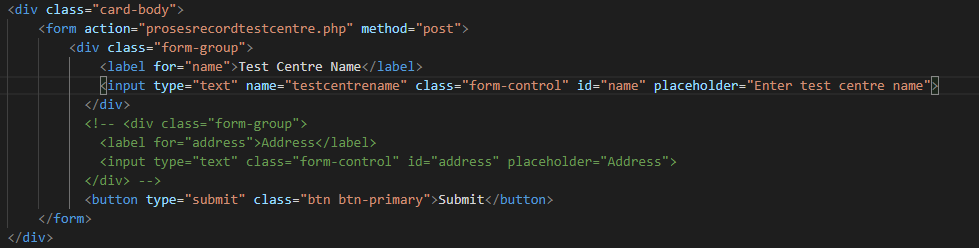
This function is to display list all the data of test centre that has been registered



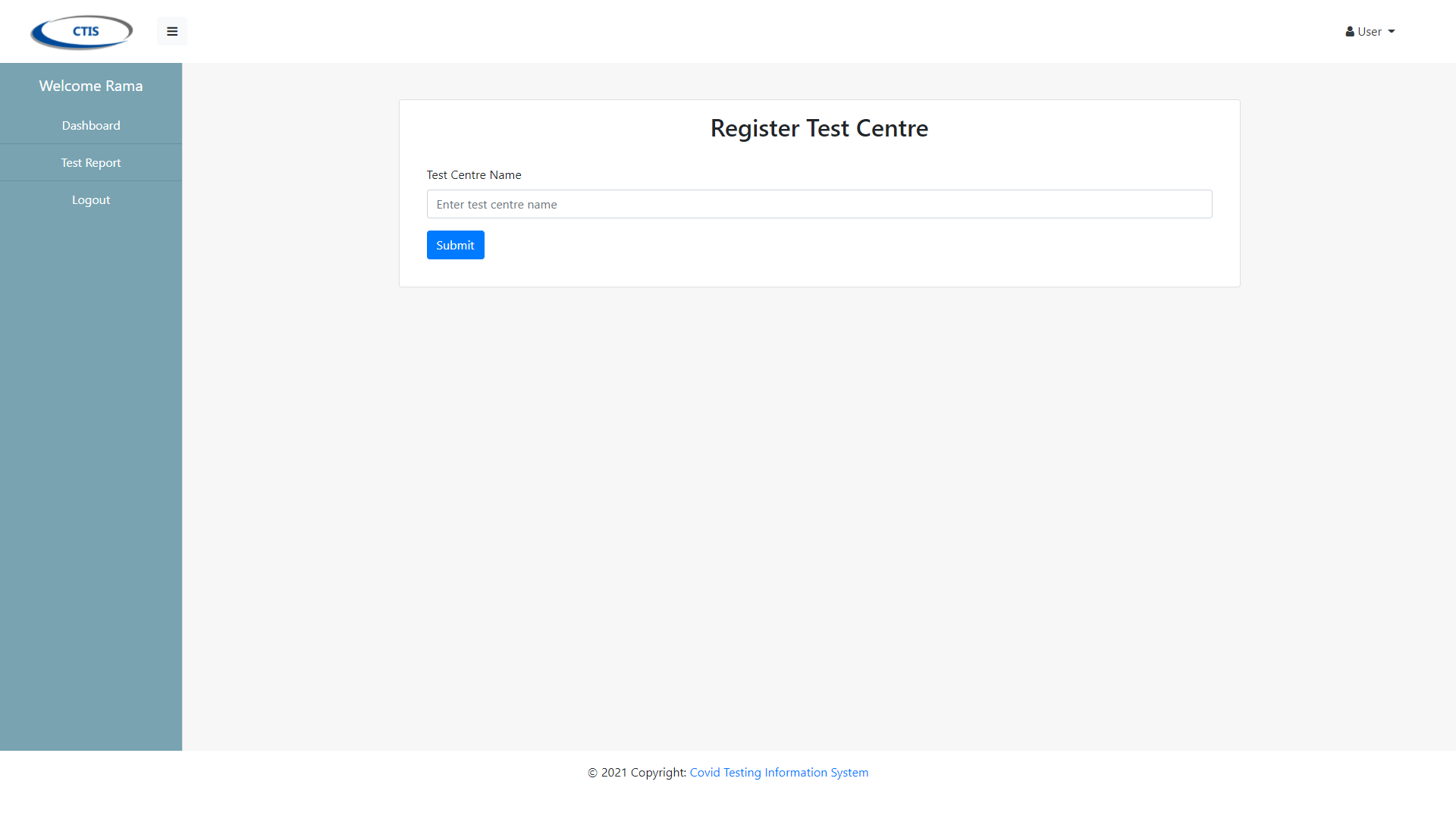
This page is display all the test centre that has been registered



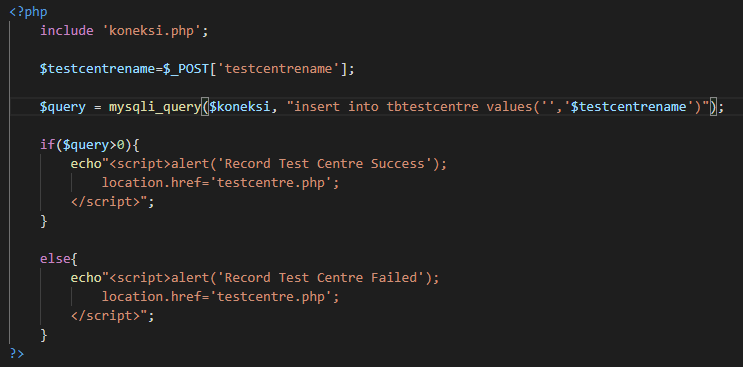
This function is to registered the test centre from test centre manager



This page is display form registration of test centre

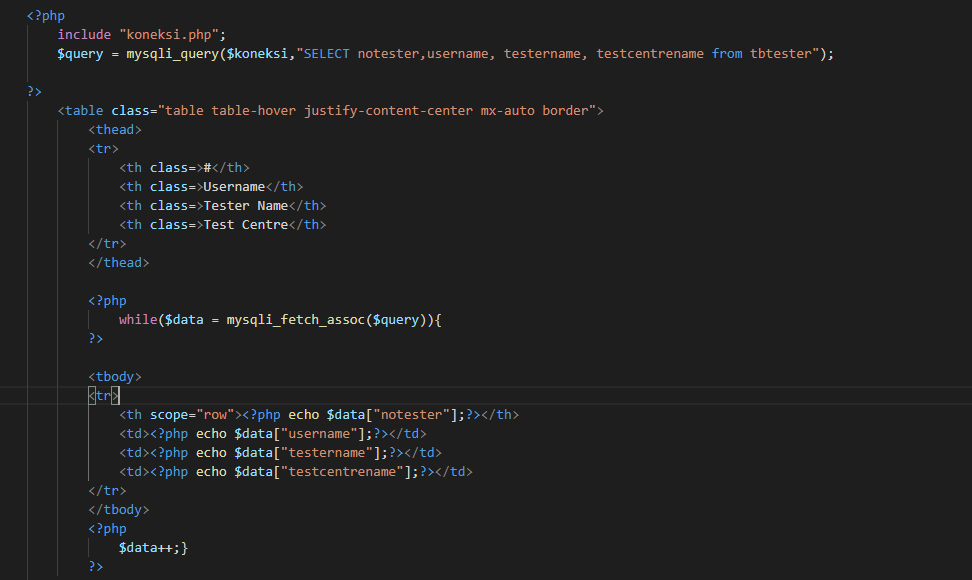


This function is to proceess record the test centre

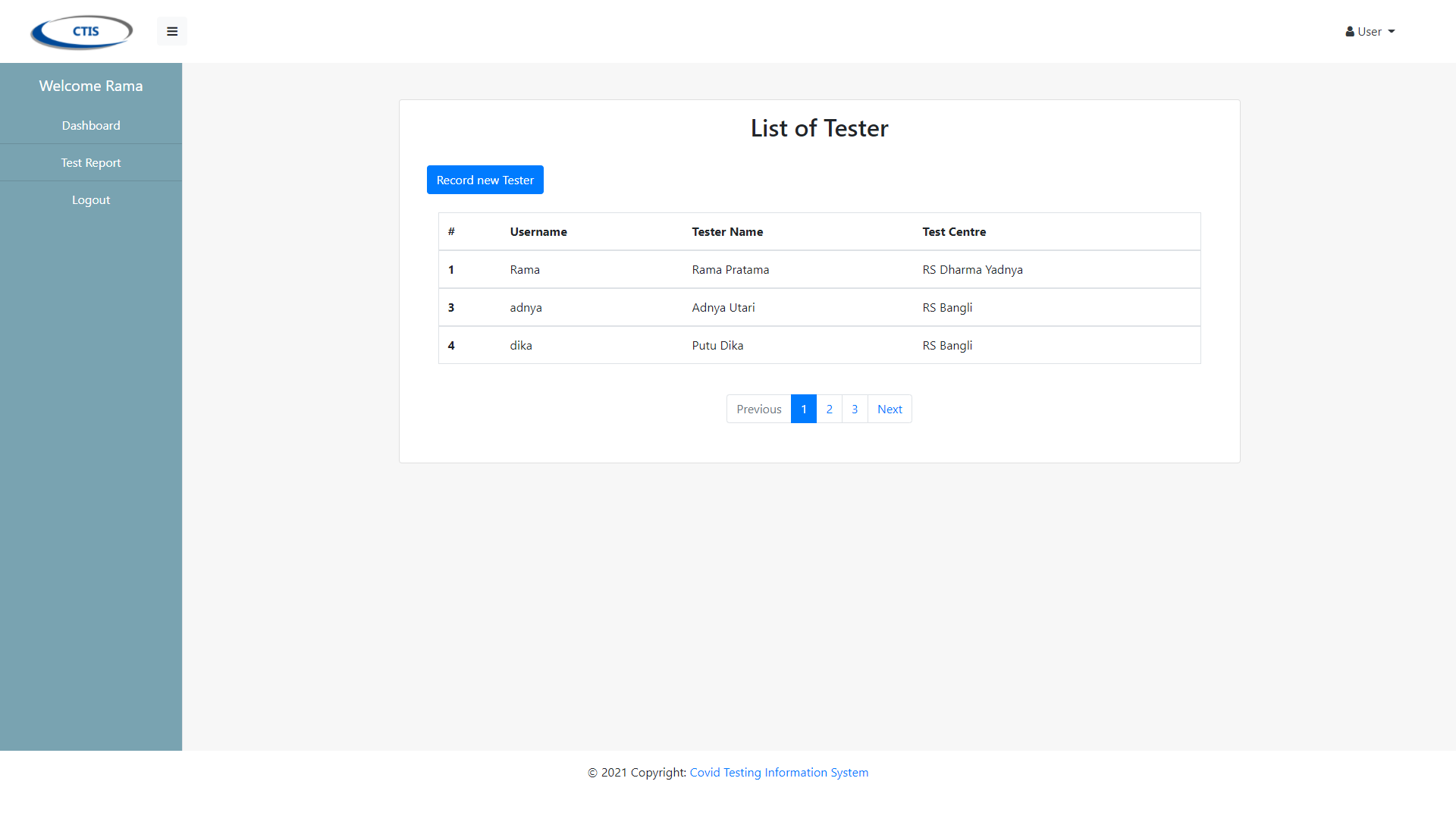


3. Record Tester

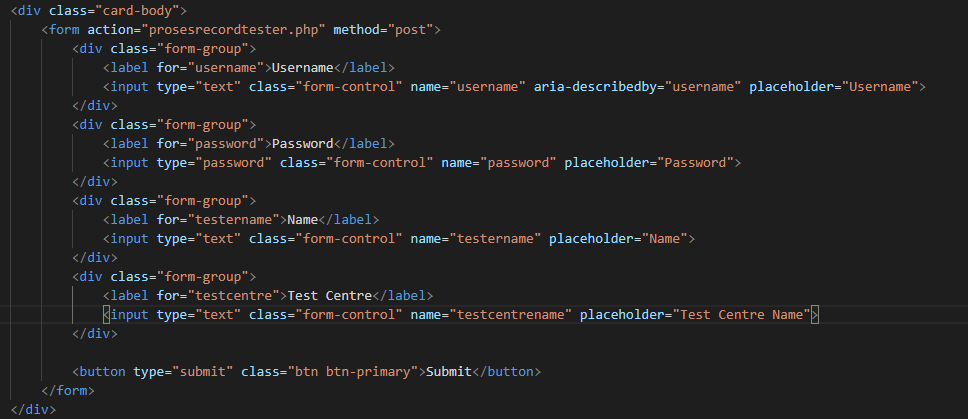
This function is use to display all list of tester that has been recorded



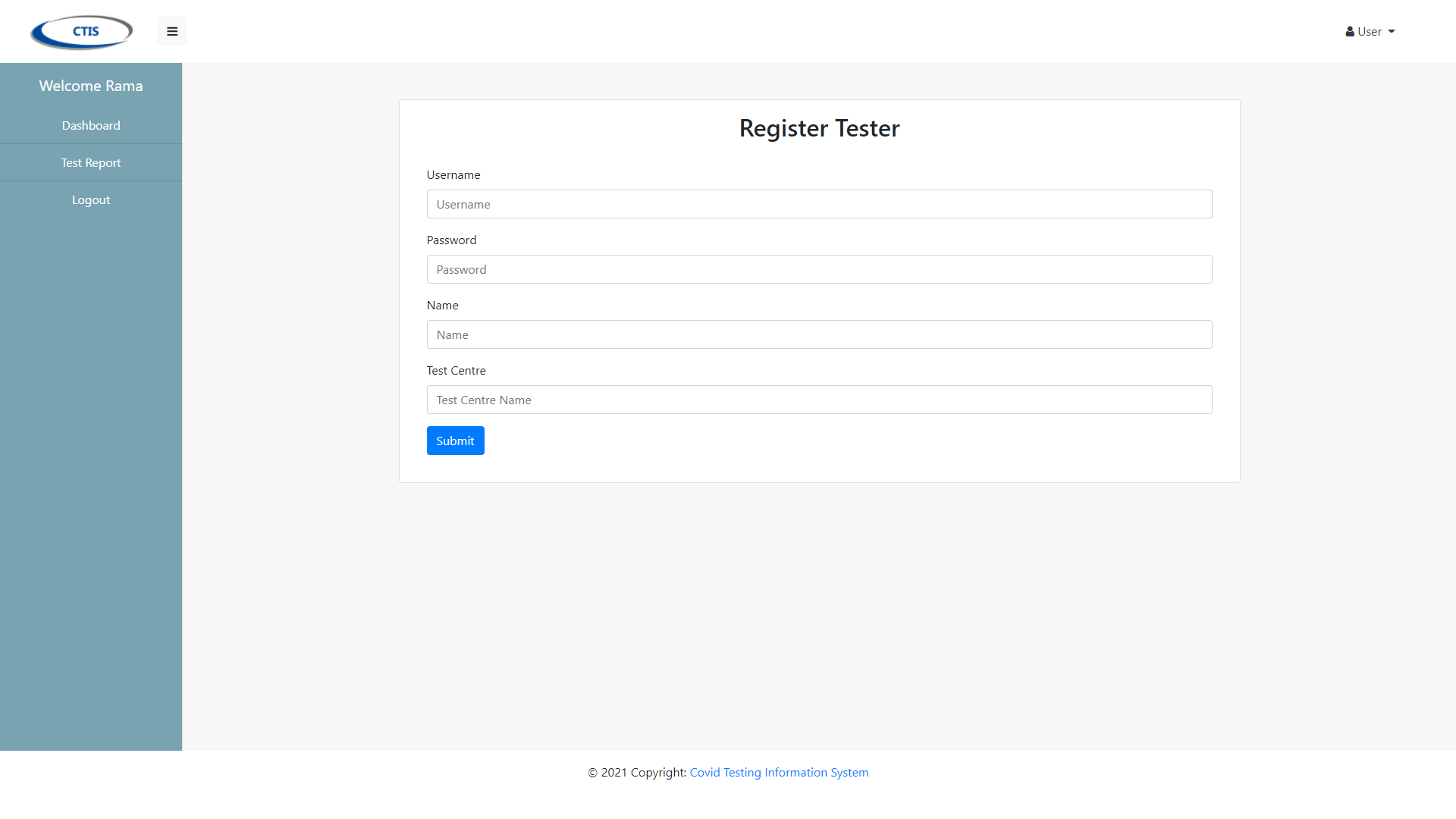
This page is display all the tester that has been recorded



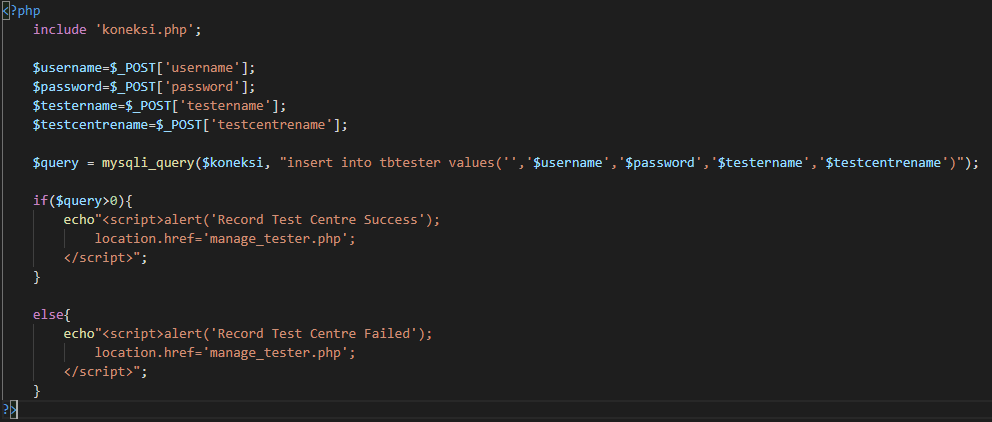
This function is use to record the new tester from test centre officer



This page is display form record for tester



This function is use to proceess the record of new tester

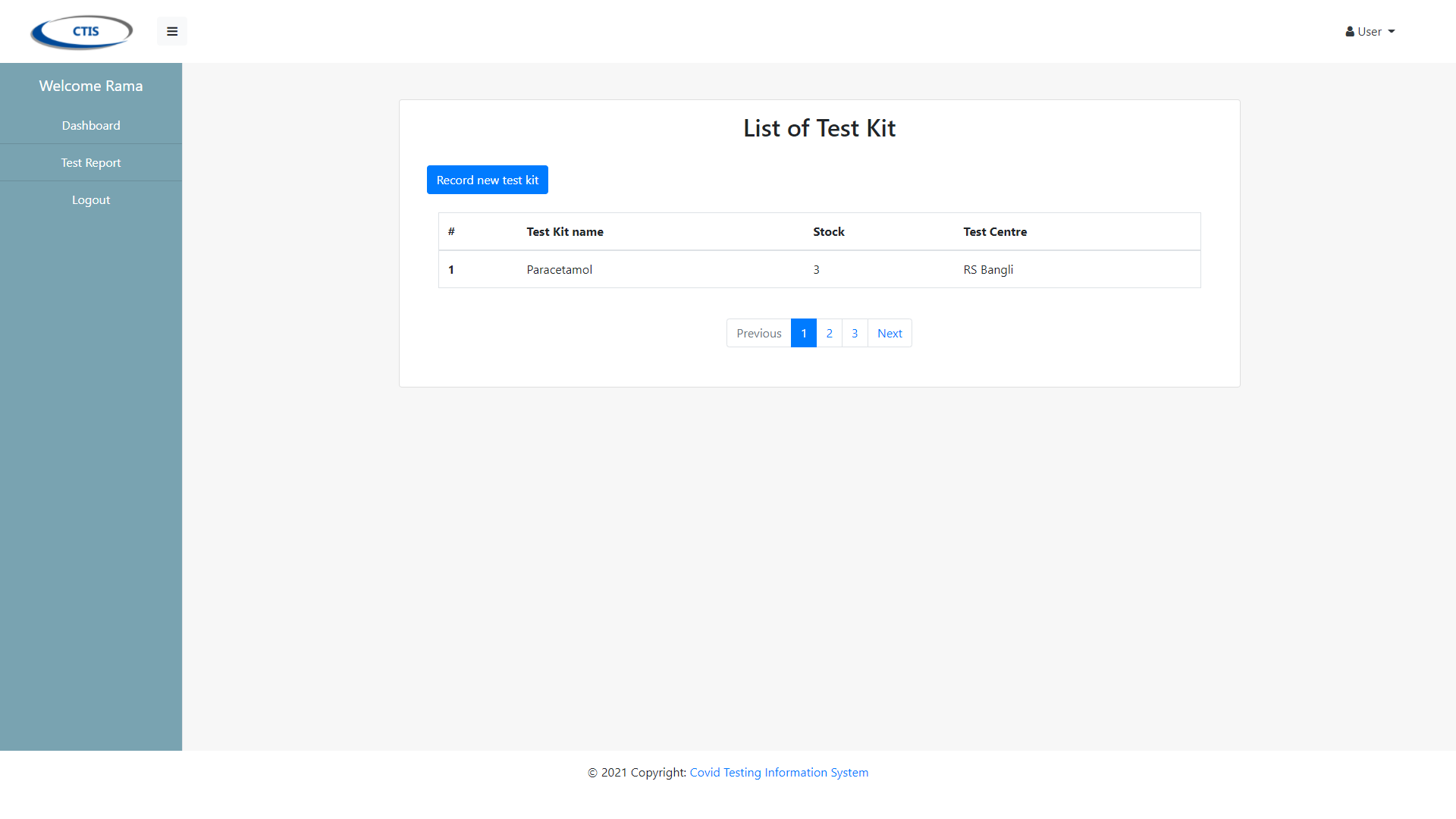


4. Manage Test Kit Stock

This function is use to display all the test kit stock that has been registered or updated



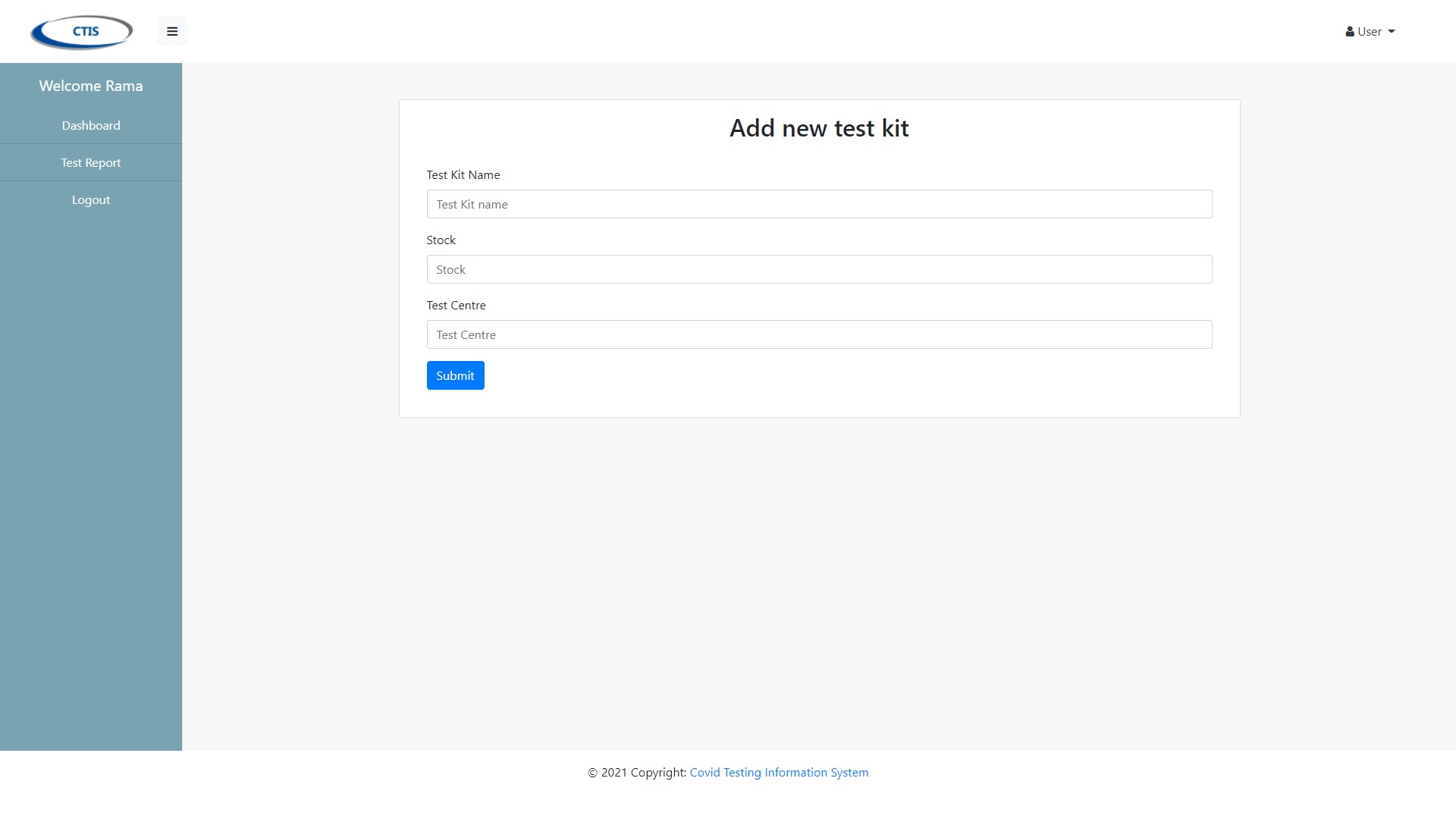
This page is display all the test kit that has been registered



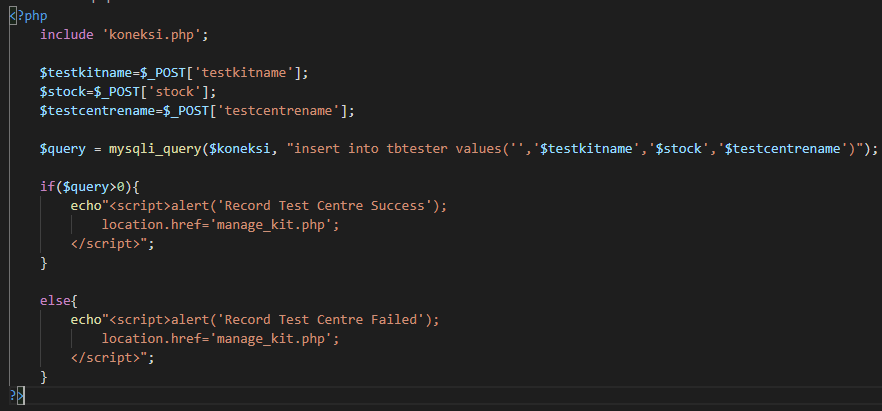
This function is use to register or update the test kit stock



This page is display form of register test kit



This function is use to proceess register the test kit

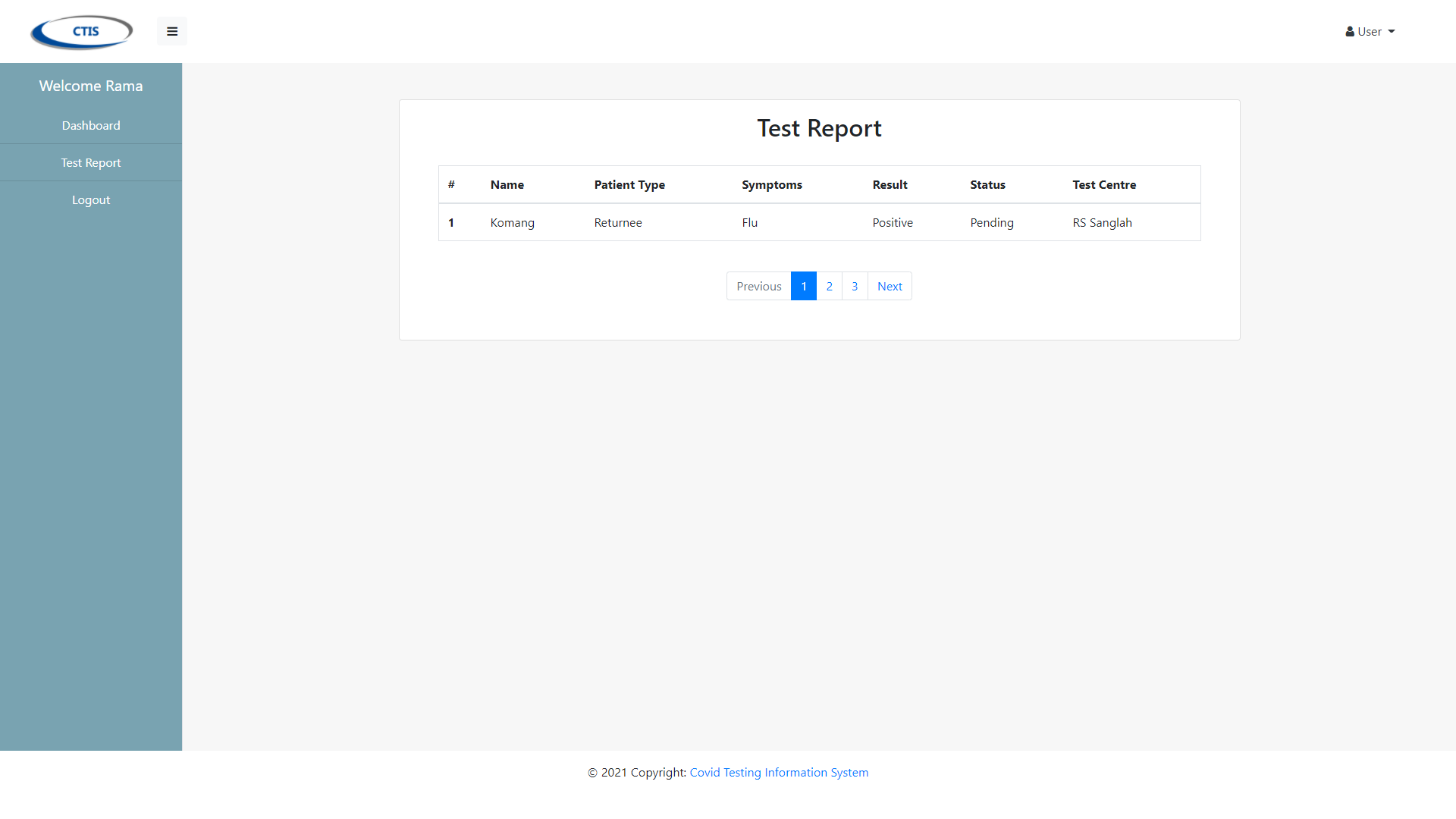


5. Generate Test Report

This function is display all the test that has been registered

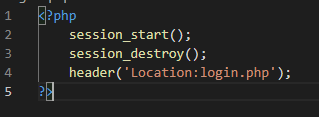


This page is display list all the test report that has been registered

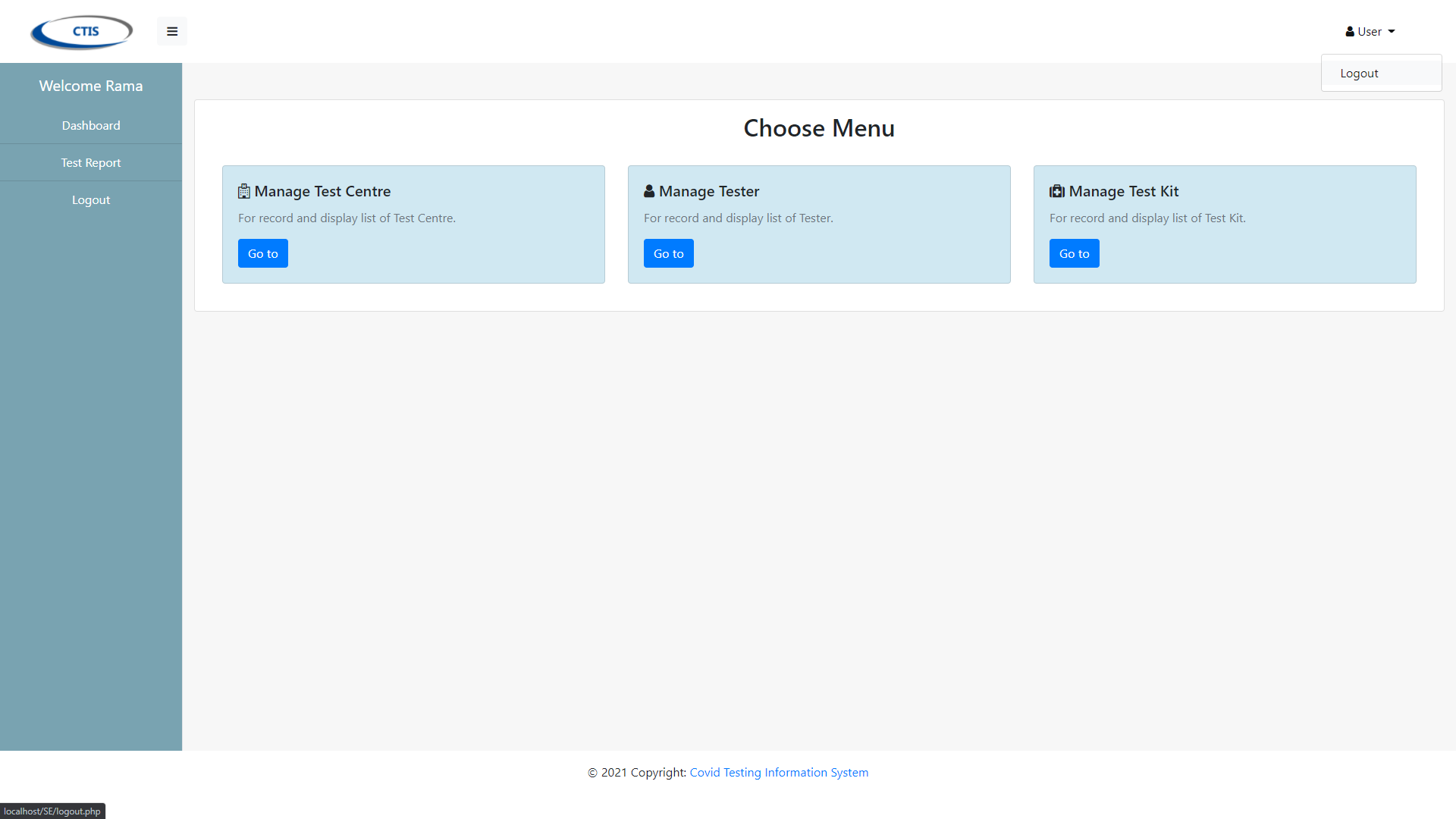


6. Logout

This function is use when user want to logut from application



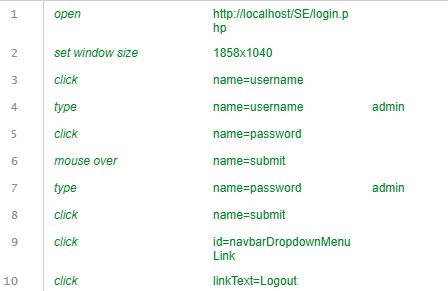
This is page from Test Centre Manager that user want to logout

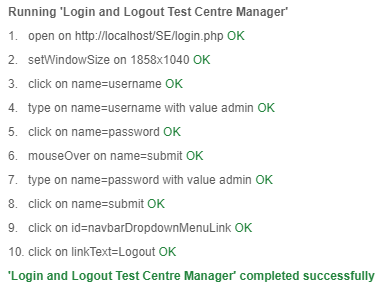


Integration Testing

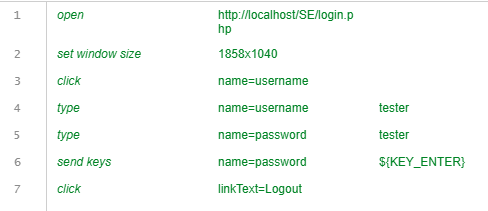
We are use Selenium Plug-in from Google Chrome for record the system will run based on the functions in each use case

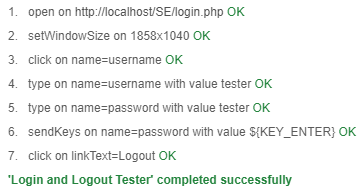
1. Login & Logout Test Centre Manager



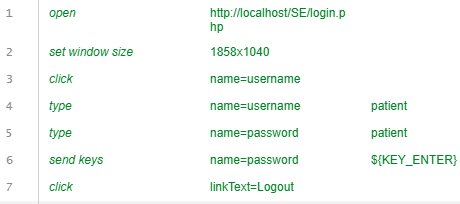


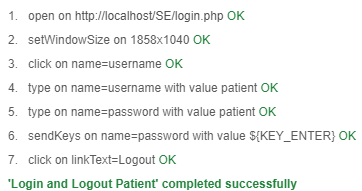
2. Login & Logout Tester





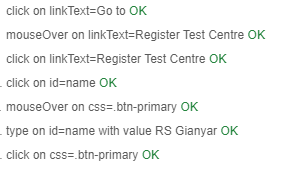
3. Login & Logout Patient





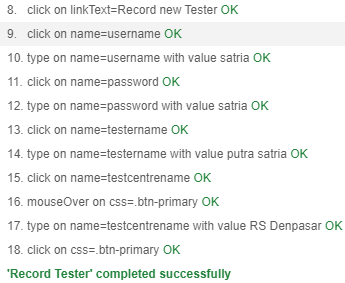
4. Register Test Centre



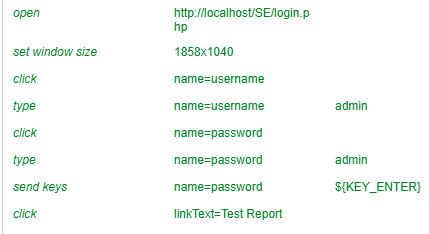


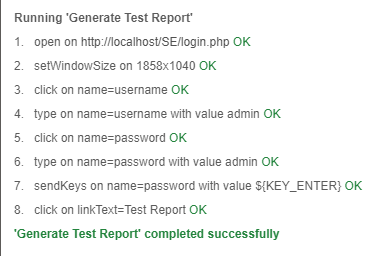
5. Record Tester





6. Generate Test Report





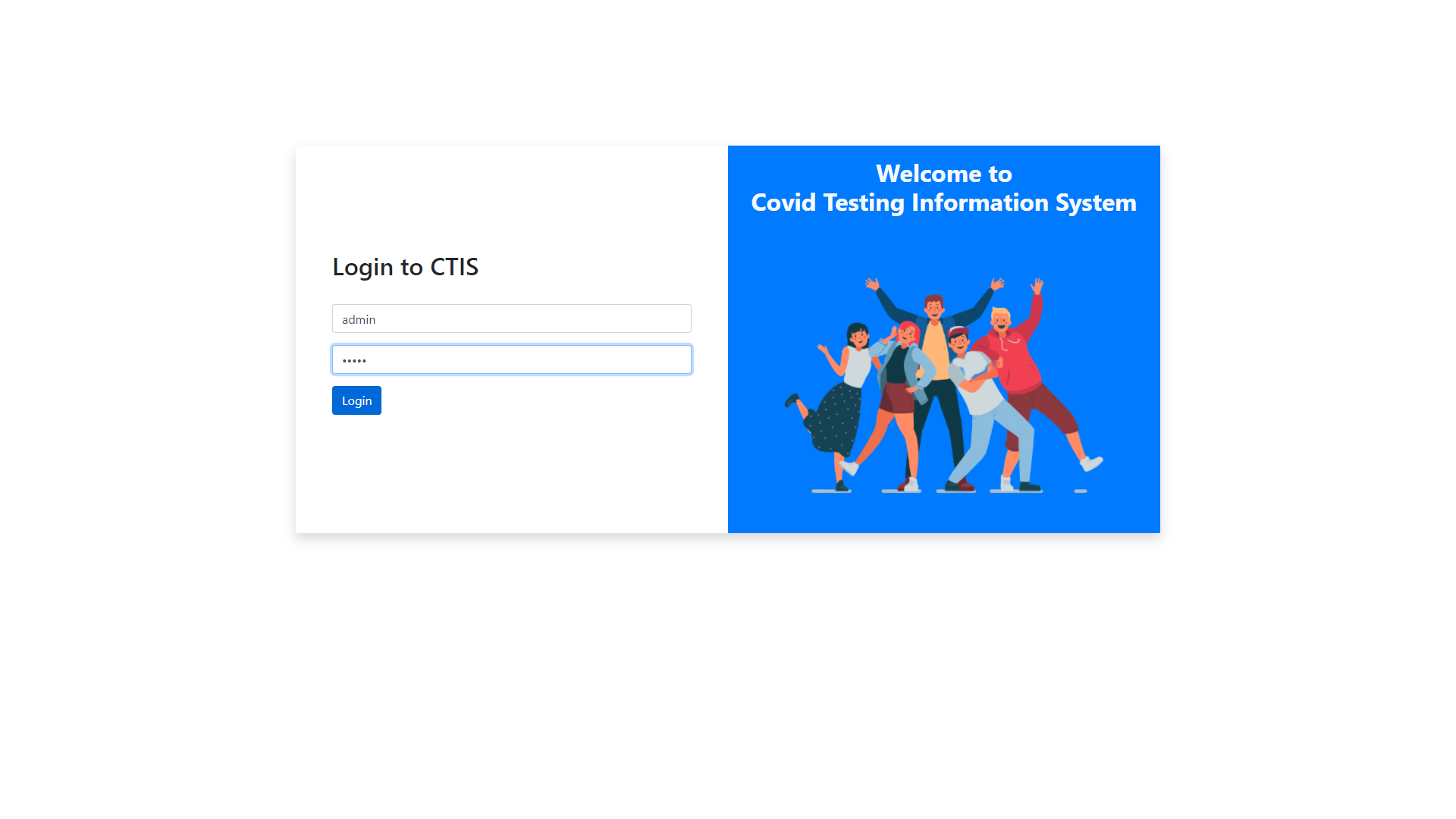
System Testing

Functional Requirements

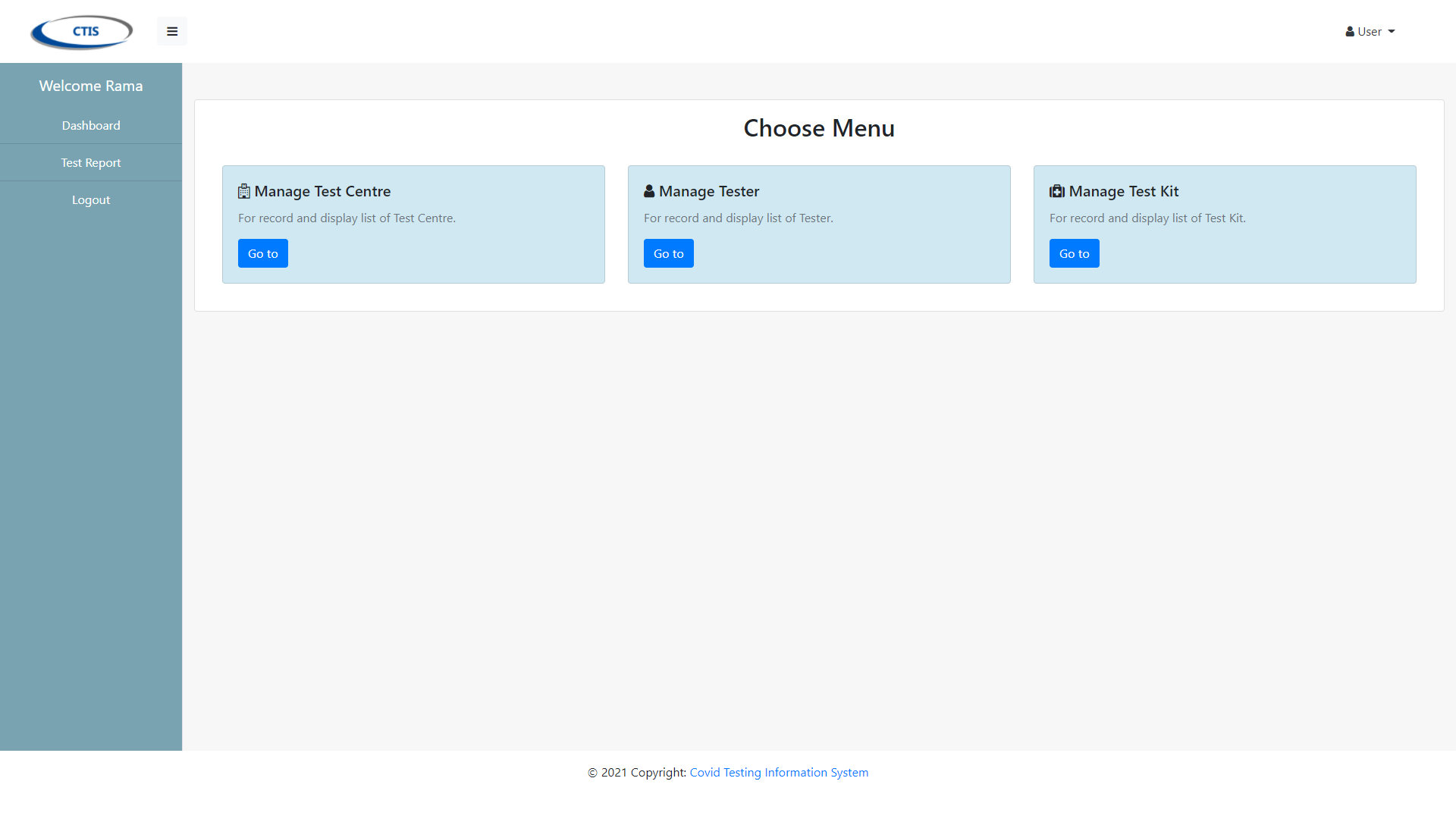
We will test the system according to the functional requirements

1. Login

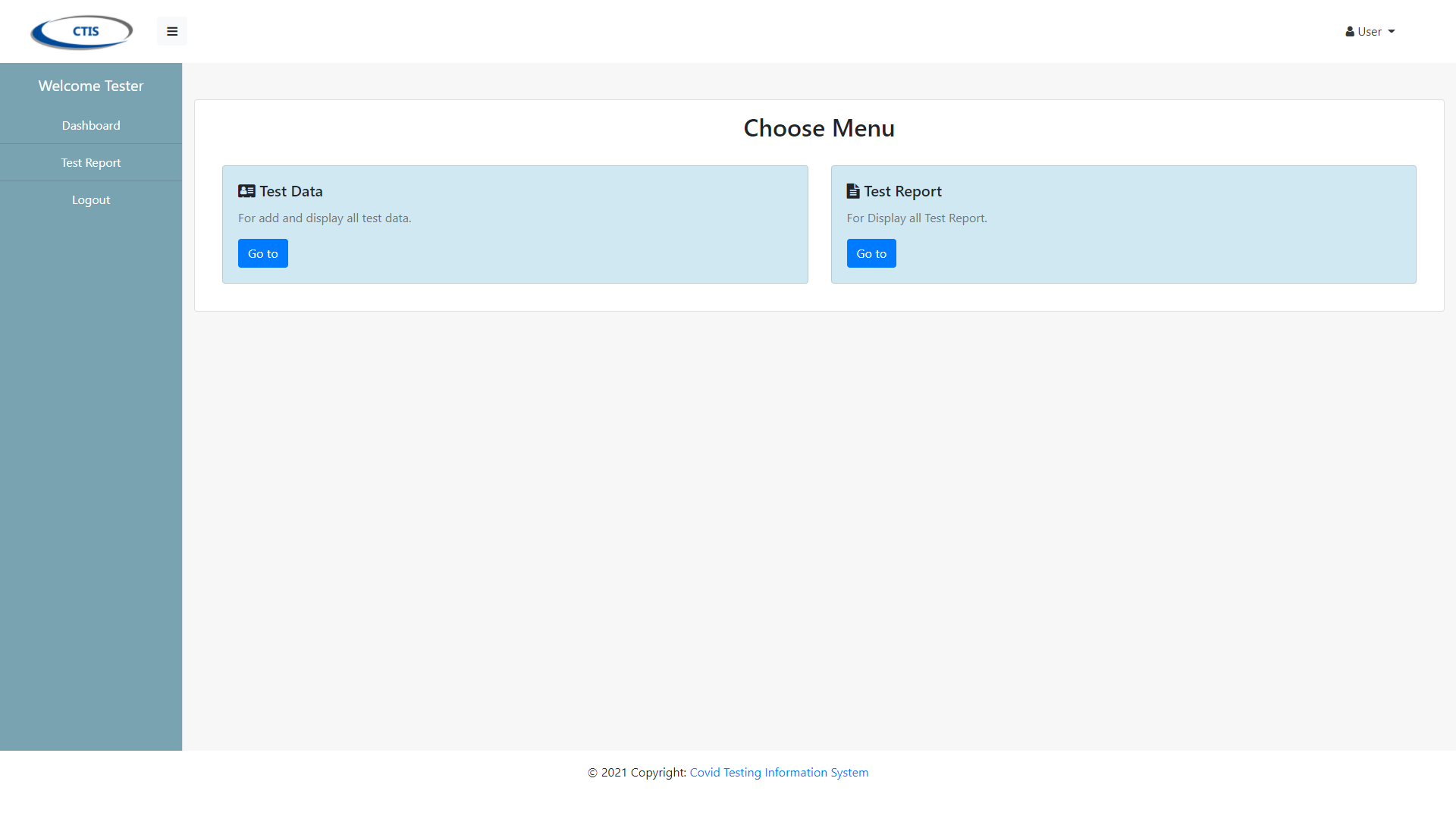
This is the login page that user start first



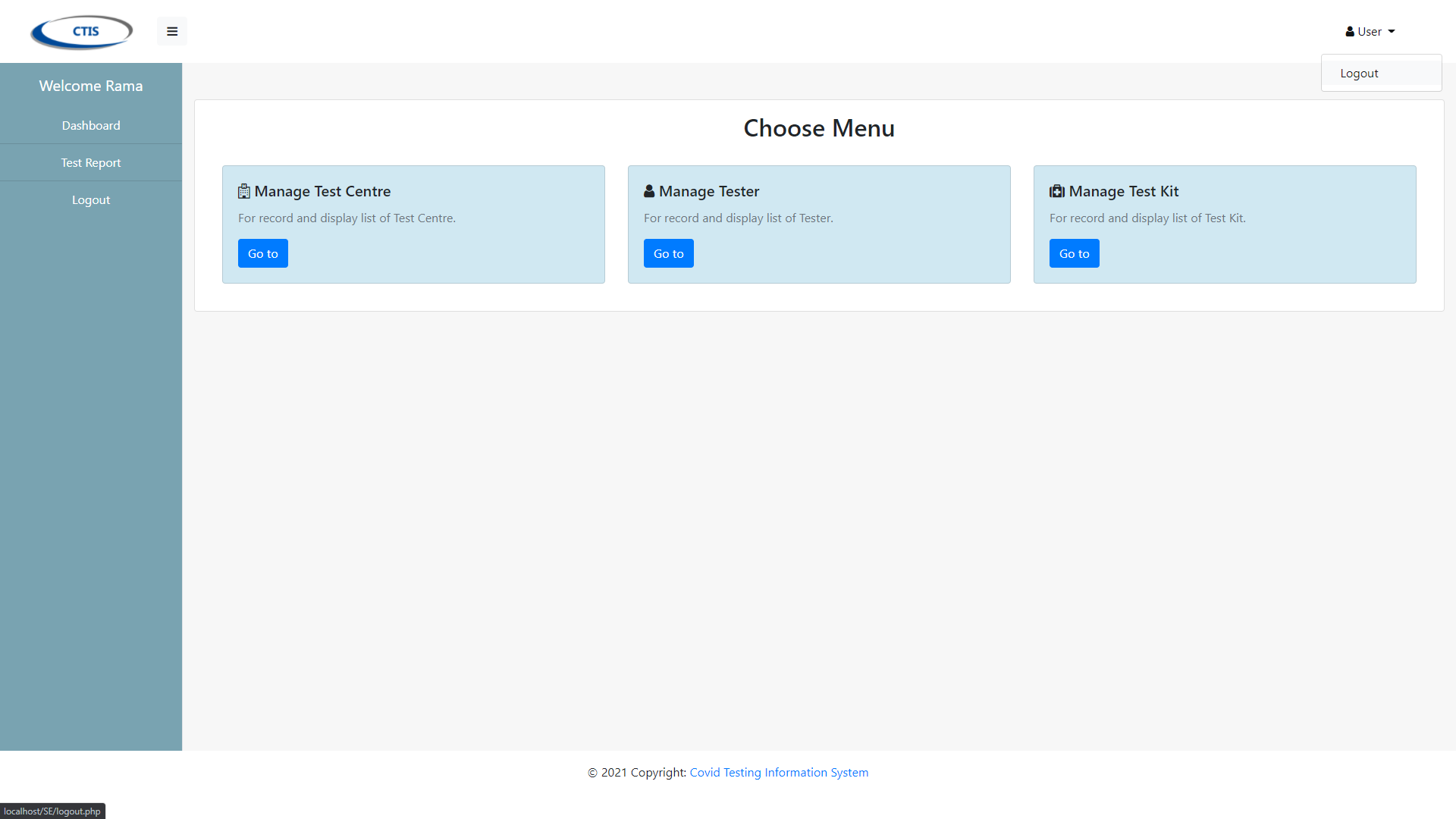
This is Test Centre Manager’s Dashboard



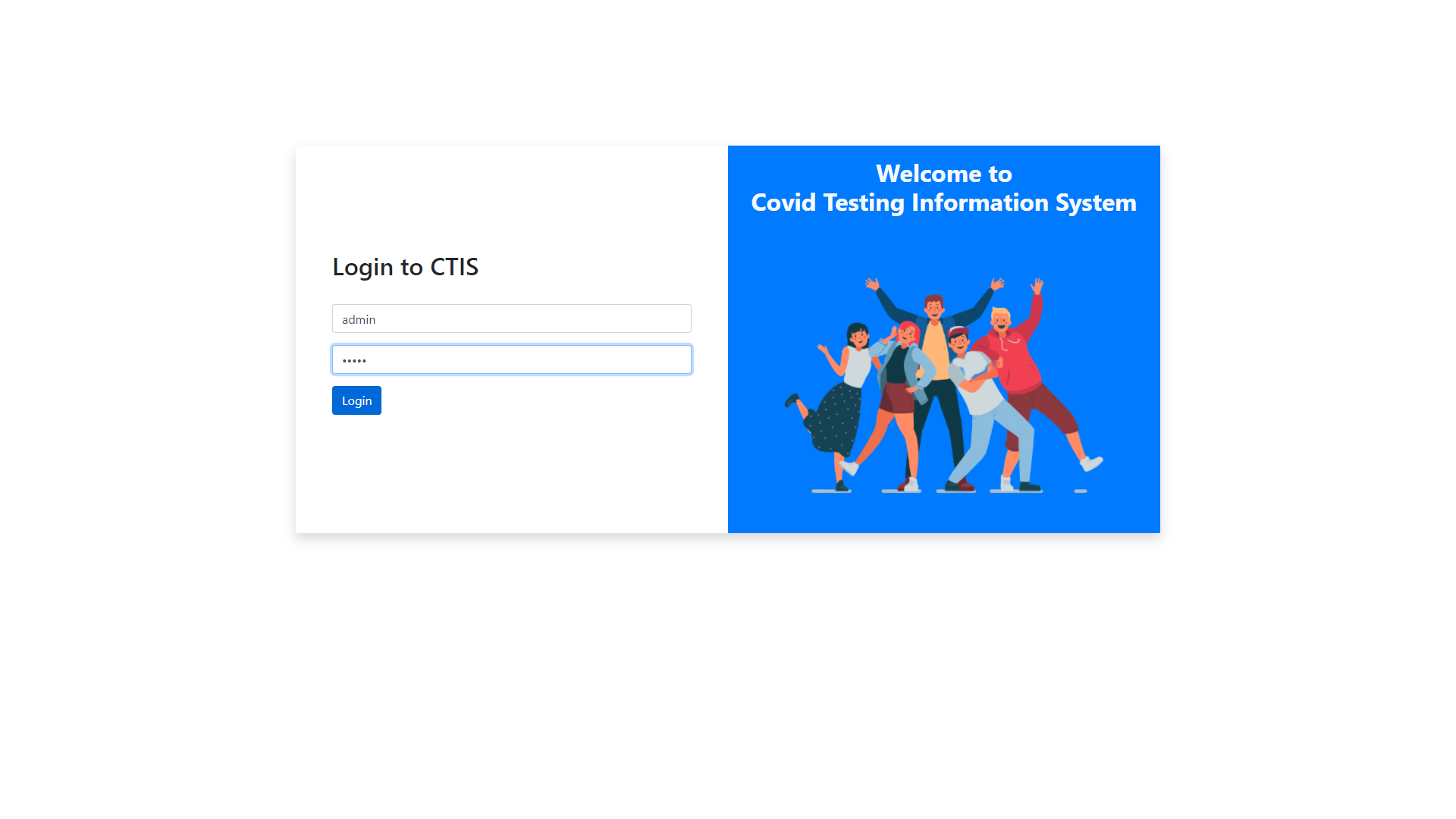
This is Tester’s Dashboard



2. Logout

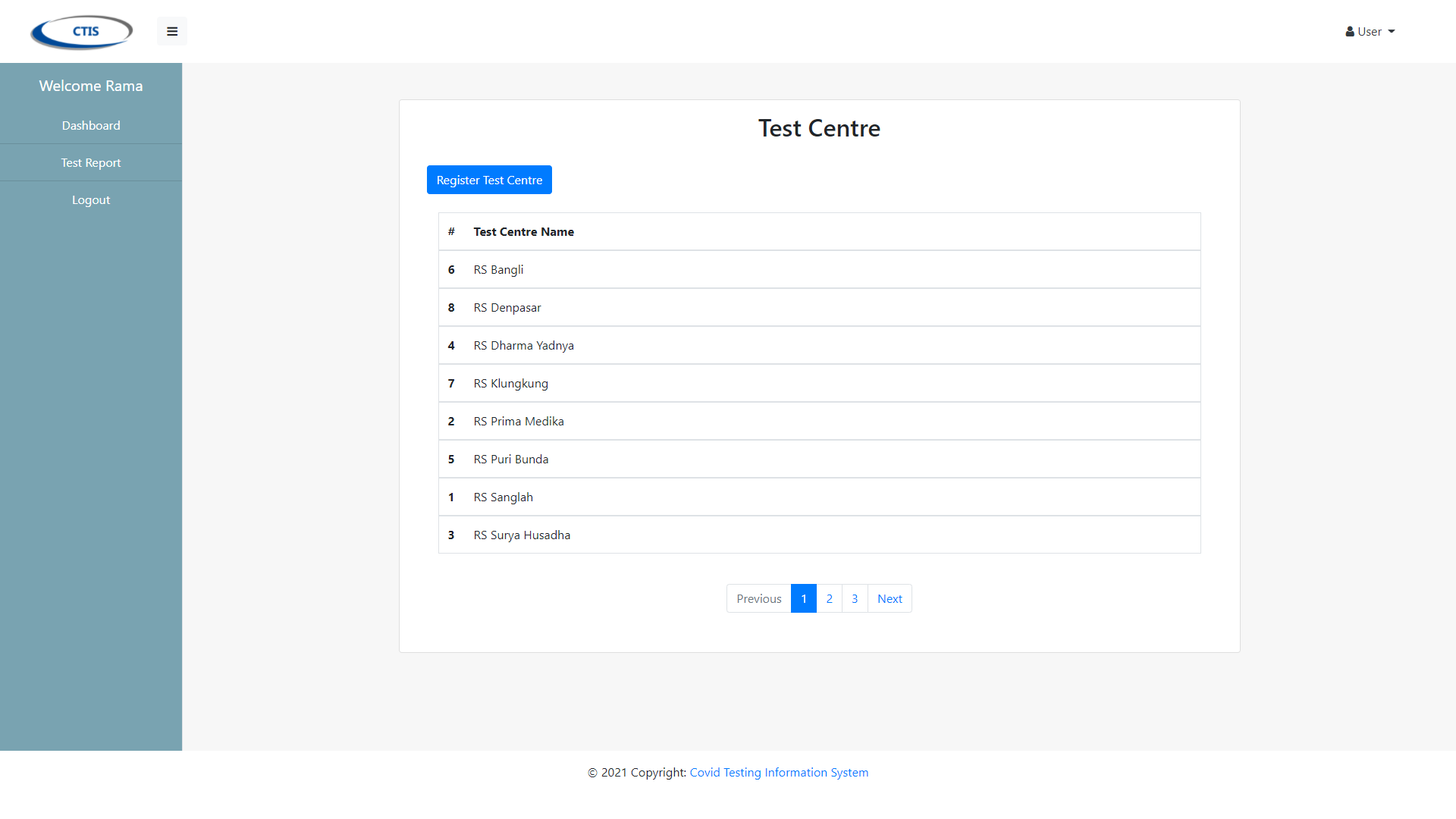


Back to Login page

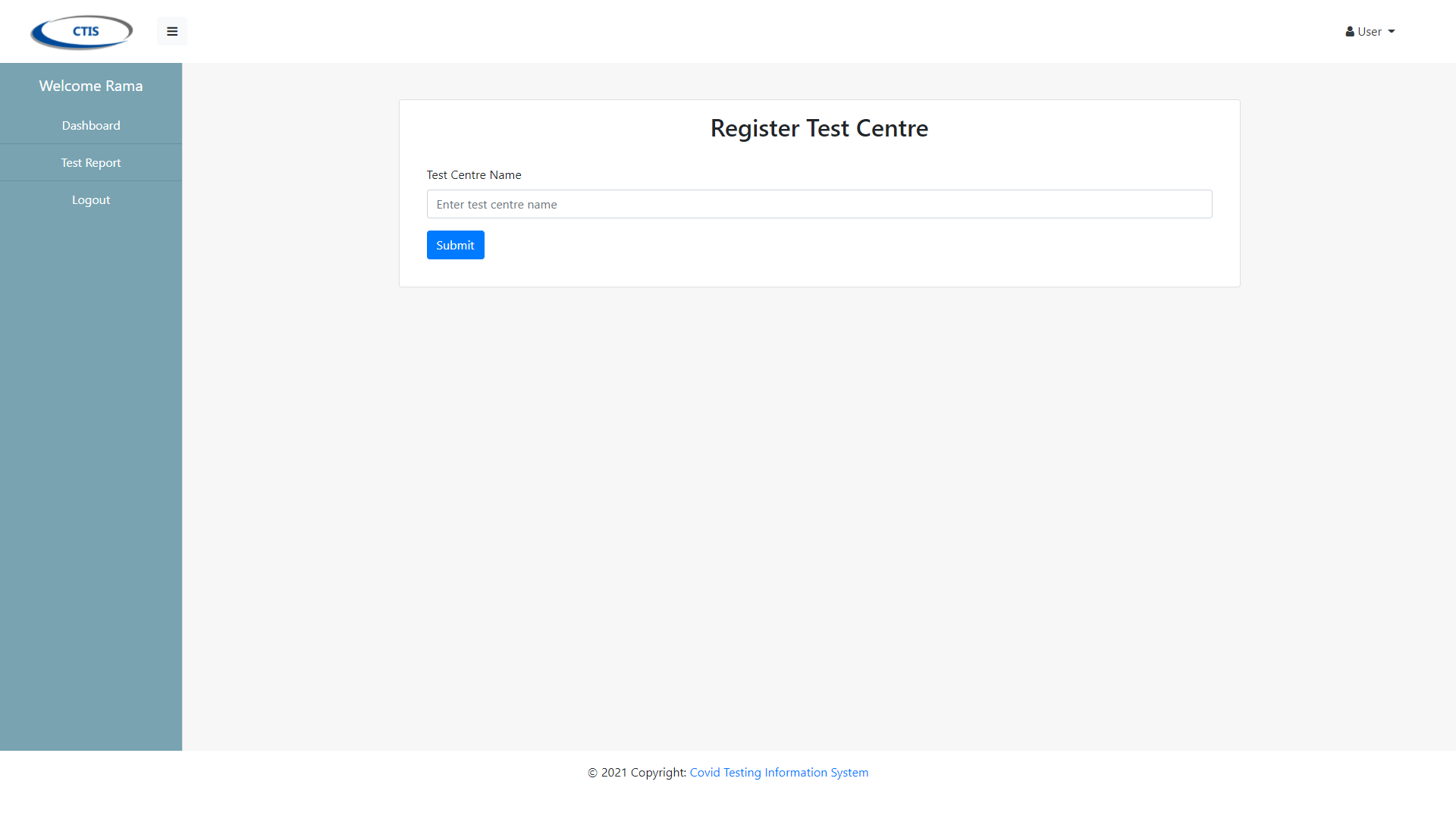


3. Manage Test Centre

This page is display all the test centre that has been registered

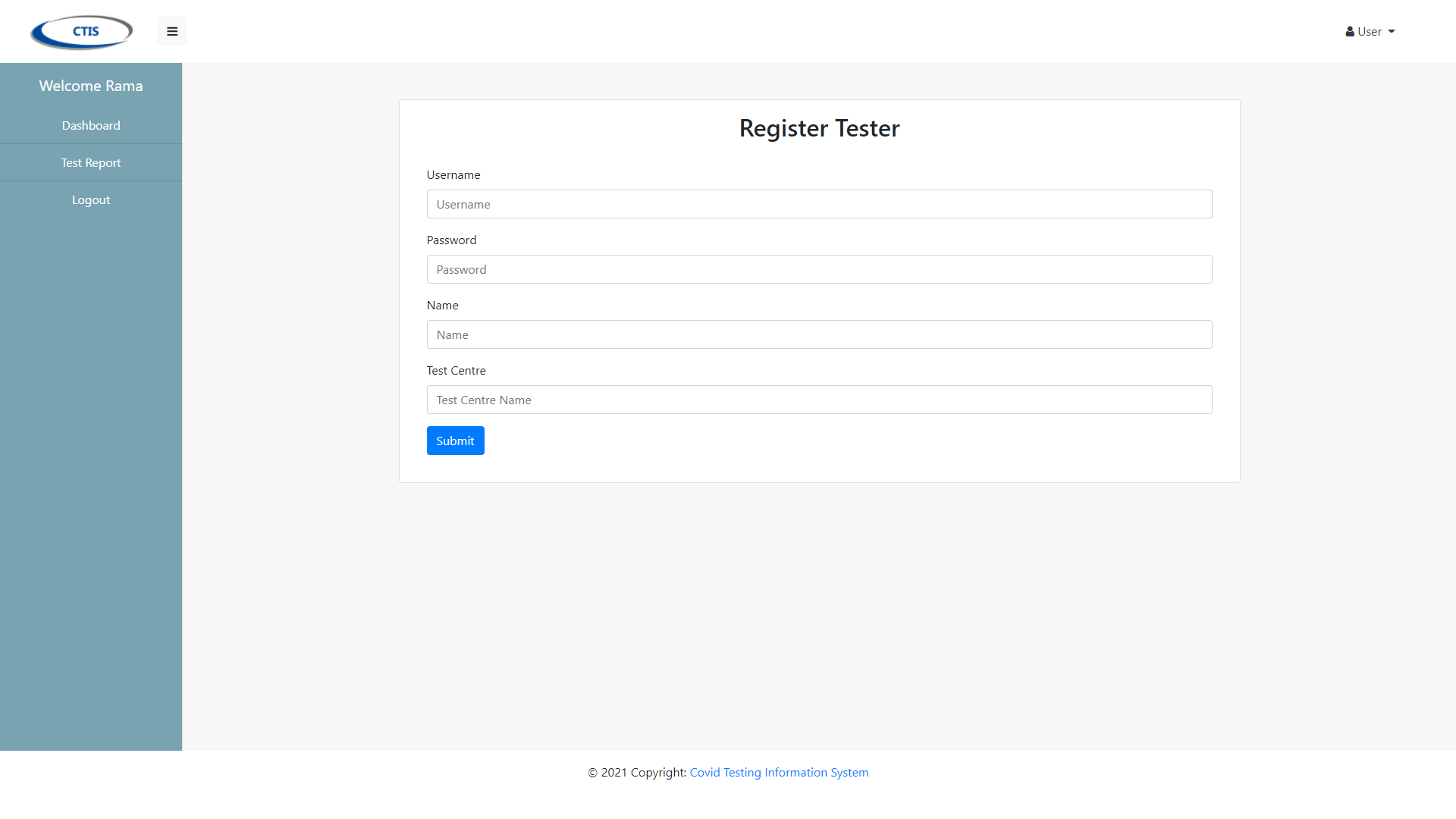


This page is display form registration of test centre



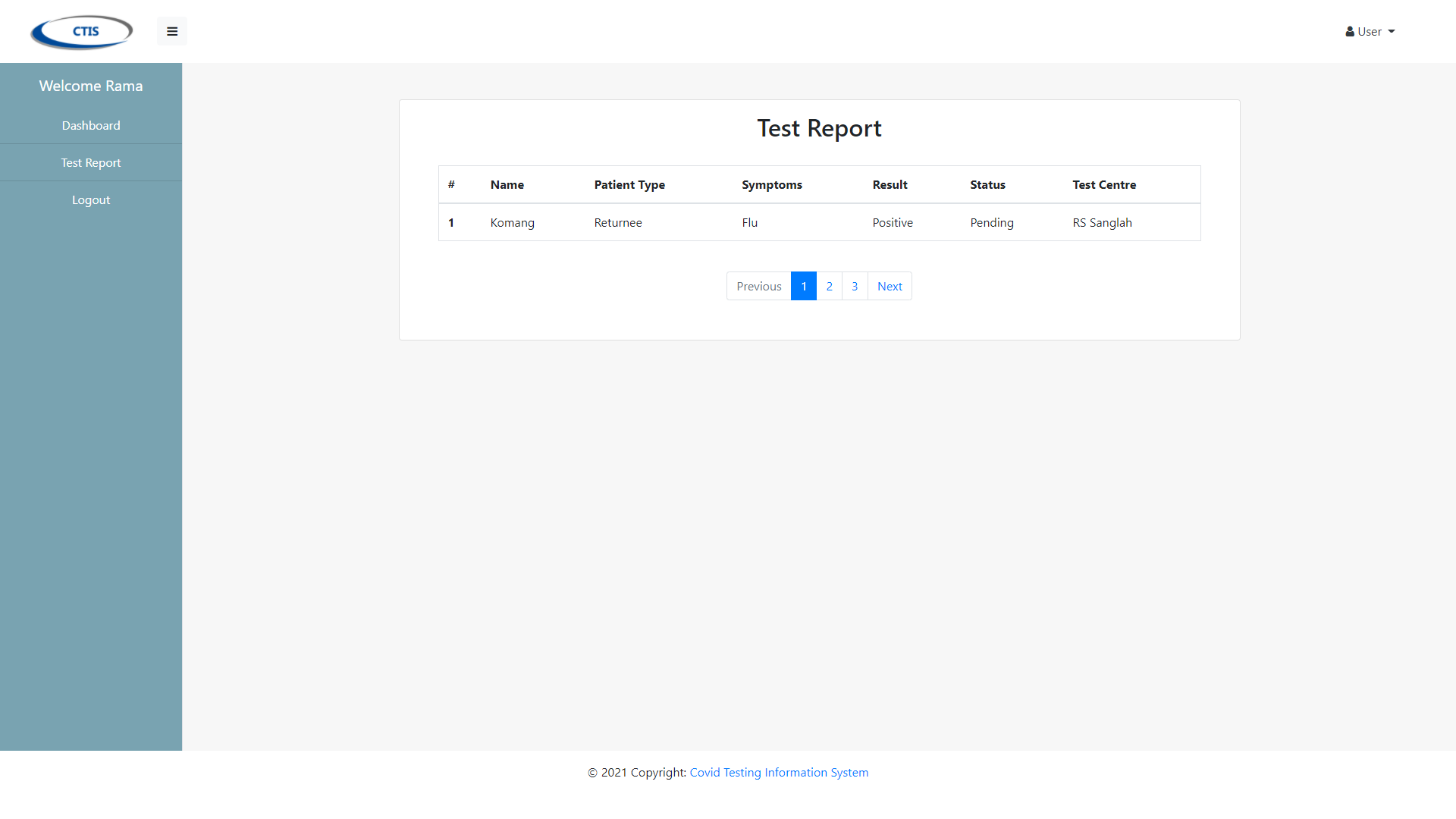
3. Record Tester

This page is display form record for tester



4. Generate Test Report

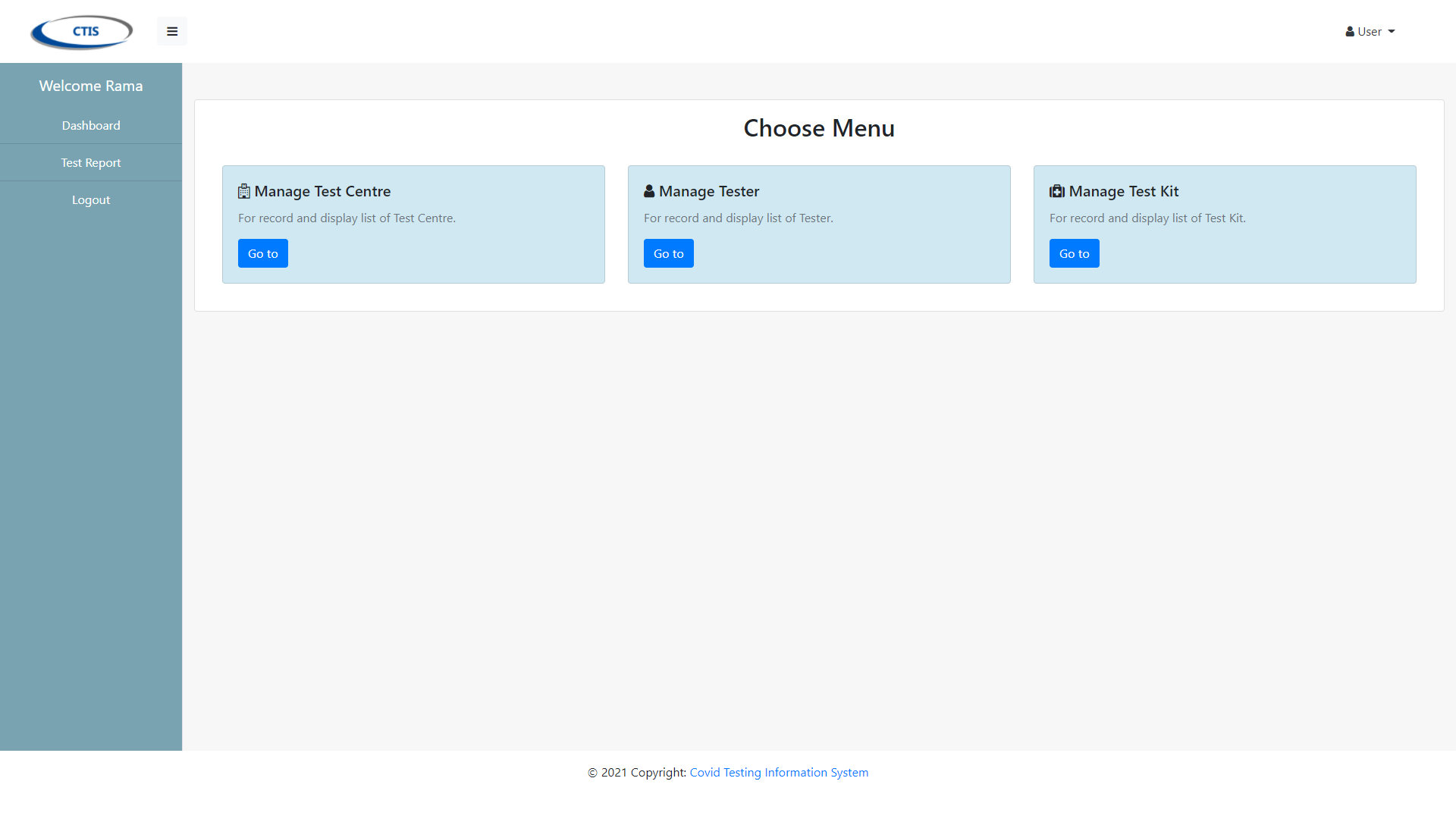
This page is display list all the test report that has been registered

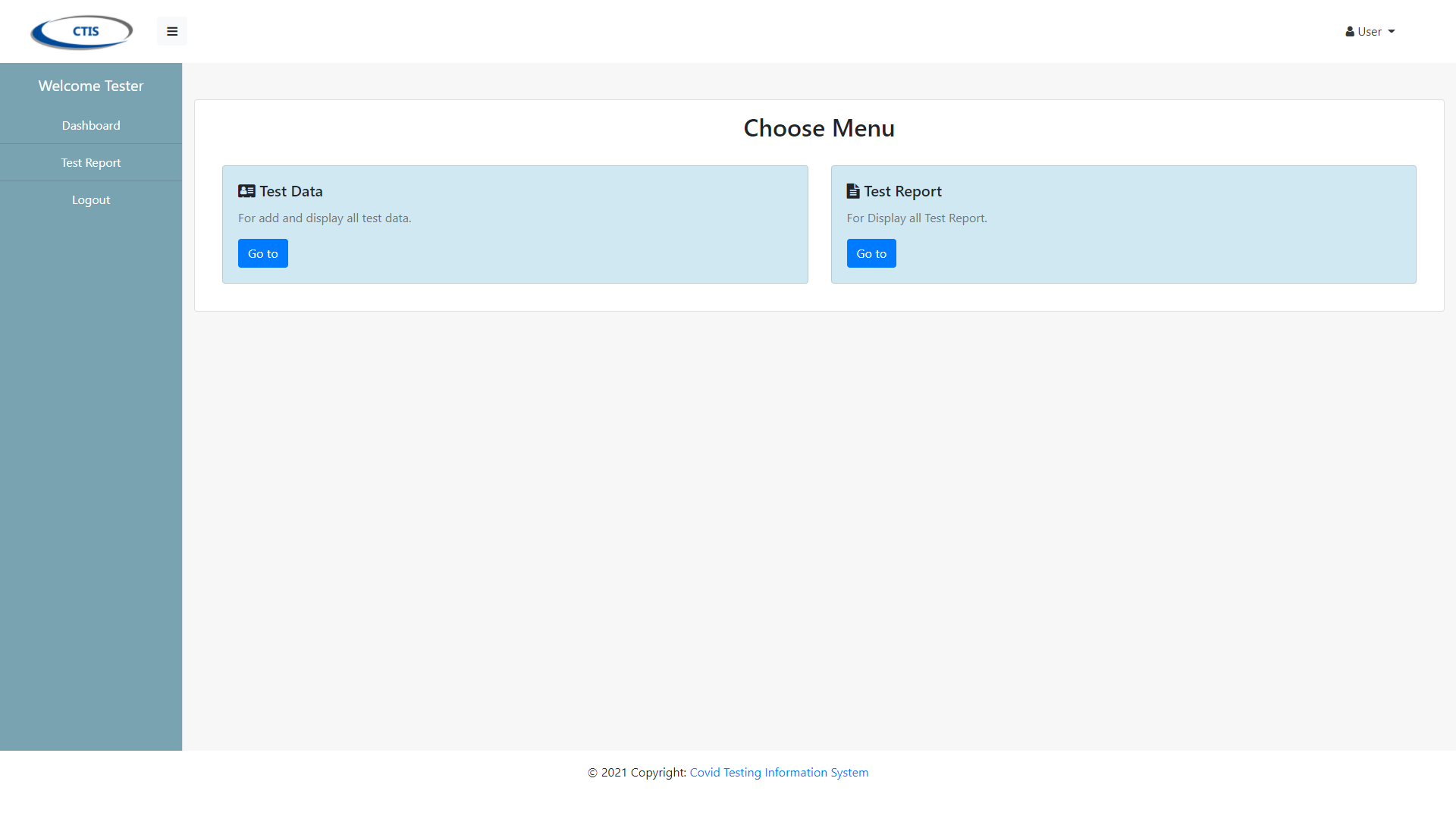


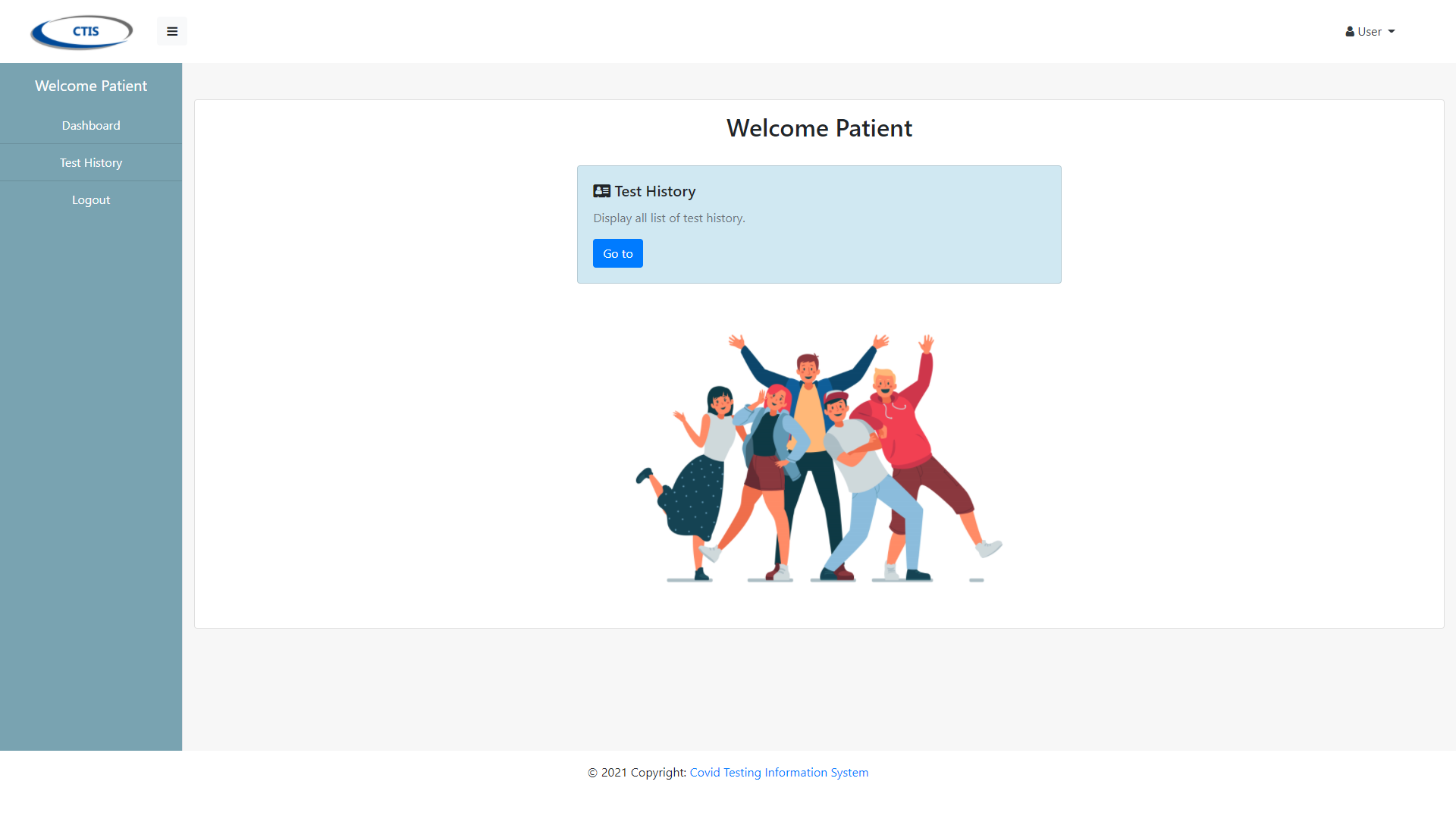
Non-functional Requirements

We will test the system according to the non-functional requirements that have been determined previously.

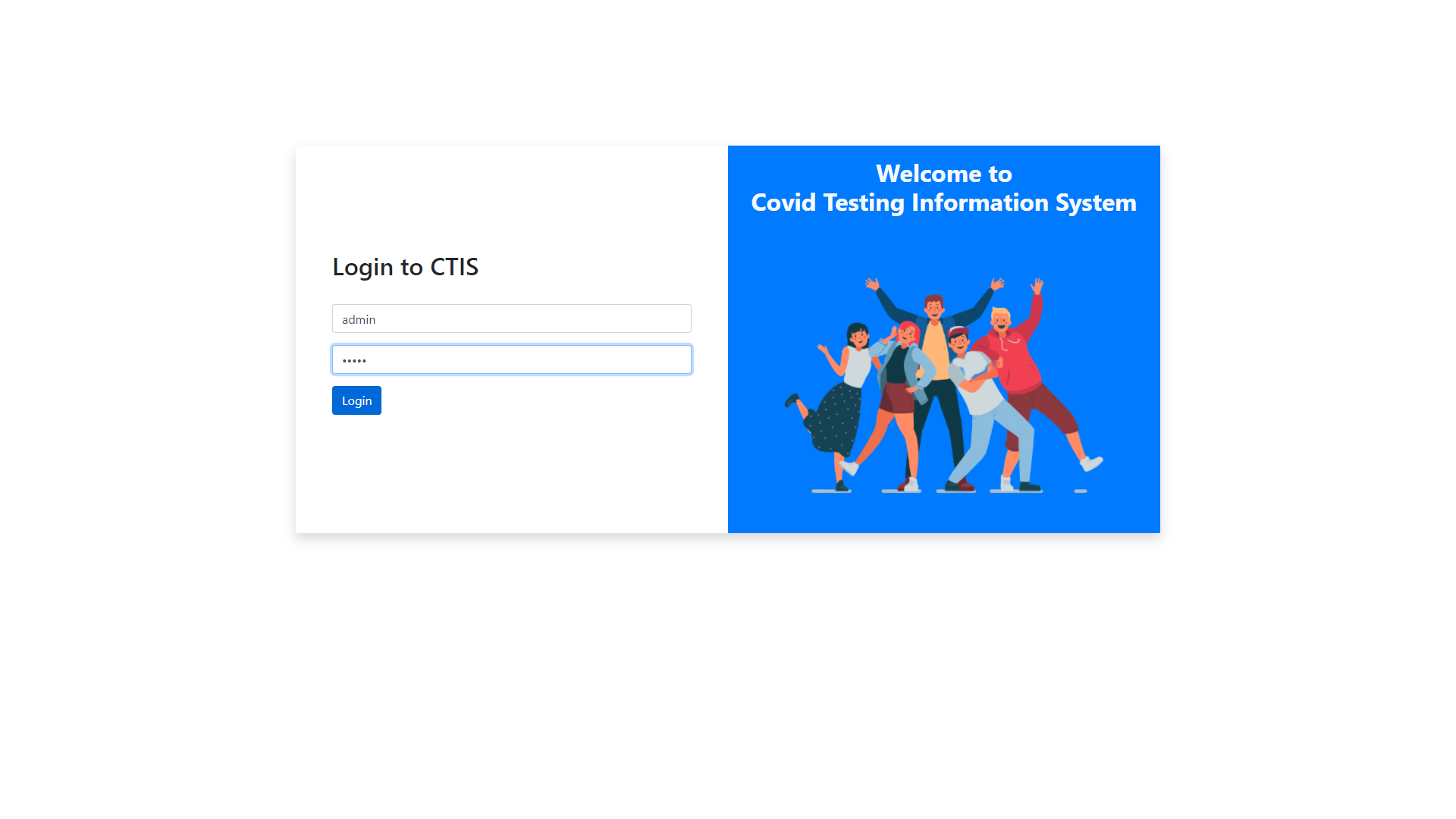
1. Usability: The system must be friendly-use to access for Test Centre Manager, Tester, and Patient





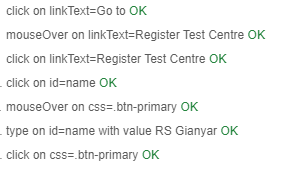


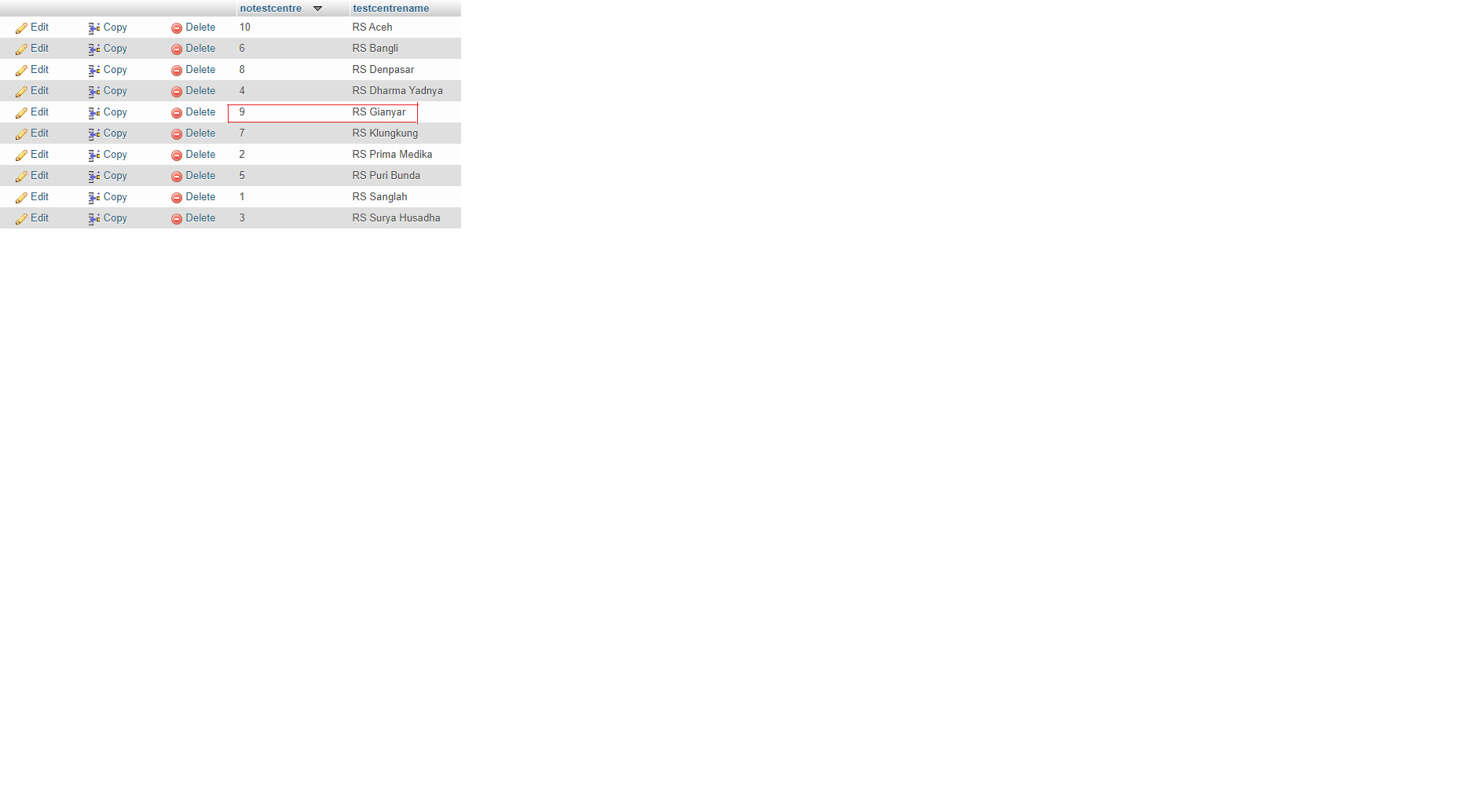
2. Security: using login system for authorization



3. Accuracy and Precision: The accuracy of data that has been inputted will stored with its real value.







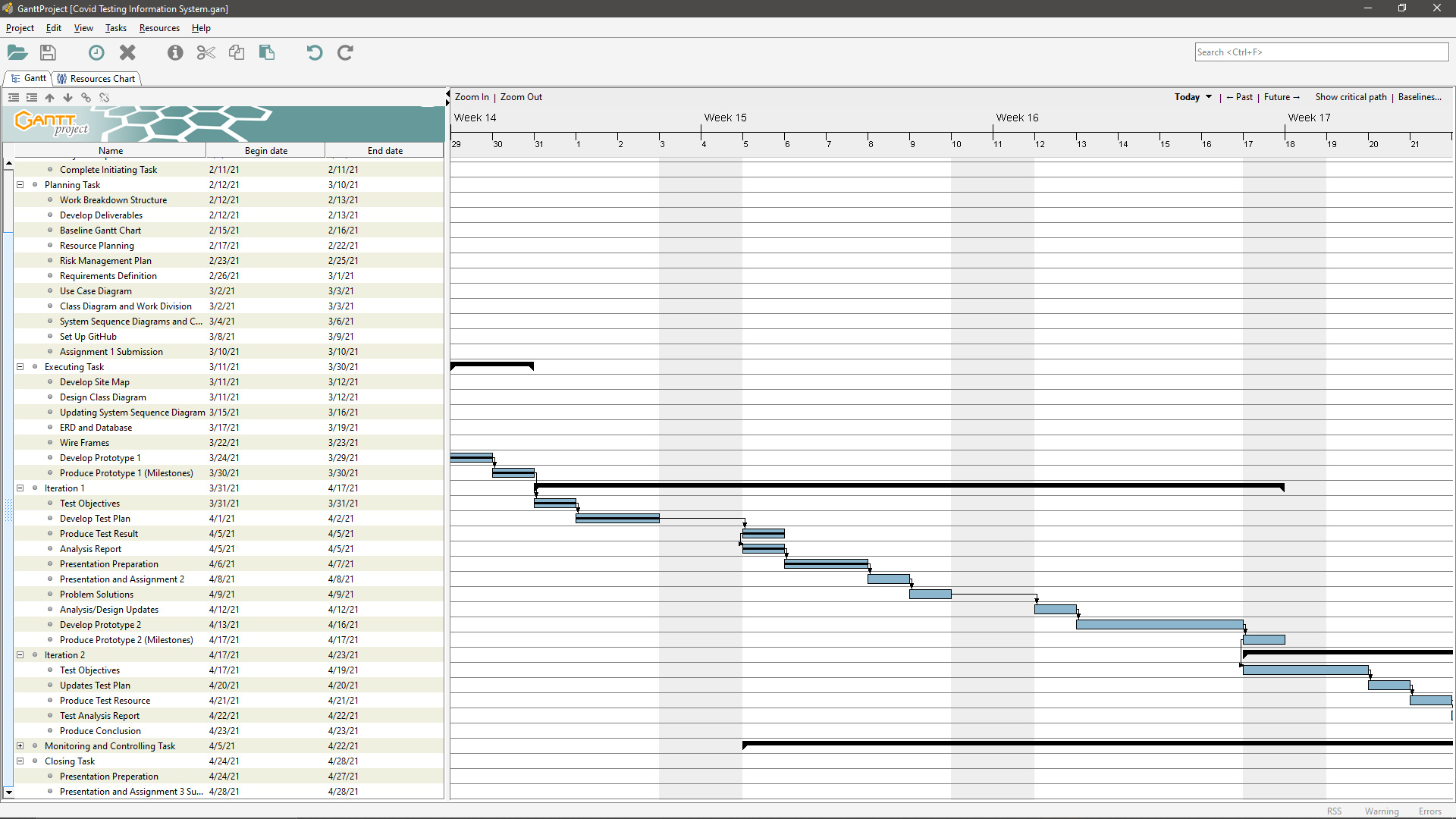
4. Modifability

In this non-functional requirement, we still under proceess to make modifability. Example, in use case update test result. So, this non-functional requirement will be done in Iteration 2.

Test Analysis Report

In iteration 1, we only managed to make a few use cases because we were running low on time and minimizing the possibility of bugs. After doing some testing such as unit testing, integration testing, and system testing, we can say that the code and CTIS pass the testing process to conclude that CTIS is functioning properly. The scope of this testing is to make sure the CTIS is running according to the assigned task. We haven't found any bugs in the use case that we've made.

Update Gantt Chart



Appendix A – Peer Evaluation (Pande Putu Rama Pratama Putra, E1700877)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skills** | **4 Advanced - exceeds expectations** | **3 Competent - meets expectations** | **2 Progressing - does not fully meet expectations** | **1 Beginning - does not meet expectations** | **Score** |
| Contributions & Attitude | Always cooperative. Routinely offers useful ideas. Always displays positive attitude. | Usually cooperative. Usually offers useful ideas. Generally displays positive attitude. | Sometimes cooperative. Sometimes offers useful ideas. Rarely displays positive attitude. | Seldom cooperative. Rarely offers useful ideas. Is disruptive. | 3 |
| Cooperation with Others | Did more than others.  Highly productive. Works extremely well with others. | Did own part of workload. Cooperative. Works well with others. | Could have shared more of the workload. Has difficulty. Requires structure, directions, and leadership. | Did not do any work.  Does not contribute. Does not work well with others. | 2 |
| Focus, Commitments | Tries to keep people working together. Almost always focused on the task. Is very selfdirected. | Does not cause problems in the group. Focuses on the task most of the time. Can count on this person. | Sometimes focuses on the task. Not always a good team member. Must be prodded and reminded to keep on task. | Often is not a good team member. Does not focus on the task. Lets others do the work. | 3 |
| Ability to Communicate | Always listens to, shares with, and supports the efforts of others. Provides effective feedback. Relays a lot of relevant information. | Usually listens to, shares with, and supports the efforts of others.  Sometimes talks too much. Provides some effective feedback. Relays some basic information that relates to the topic. | Often listens to, shares with, and supports the efforts of others. Usually does most of the talking.  Rarely listens to others.  Provides little feedback. Relays very little information that relates to the topic. | Rarely listens to, shares with, or supports the efforts of others. Is always talking and never listens to others.  Provides no feedback. Does not relay any information to teammates. | 3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Accuracy -  documentation/coding etc | Work is complete, wellorganized, error-free, and done on time or early. | Work is generally complete, meets the requirements of the task, and is mostly done on time. | Work tends to be disorderly, incomplete, inaccurate, and is usually late. | Work is generally sloppy and incomplete, contains excessive errors, and is mostly late. | 2 |
|  |  |  |  | TOTAL | 13/20 |

Provide appropriate **measurables/milestones/deliverables** to support your answers for the following questions:

1. How effectively did your group work?

Our group work were little effective because there’s some missaccuracy for documentation, always remind about to keep on the task, and sometimes there’s lack of cooperative

2. Were the behaviors of any of your team members particularly valuable or detrimental to the team? Explain.

In my opinion, my team members can still usable for cooperative in this group work, but it still need to fix about missaccuracy for documentation, and sometimes need to remind about to keep on the task

3. What did you learn about working in a group from this project that you will carry into your next group experience (e.g. assignment 3)?

Help each other in doing work, always communicate in detail, and always remind for work.

Appendix A – Peer Evaluation (I Nengah Wahyudi Setiawan, E1700868)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skills** | **4 Advanced - exceeds expectations** | **3 Competent - meets expectations** | **2 Progressing - does not fully meet expectations** | **1 Beginning - does not meet expectations** | **Score** |
| Contributions & Attitude | Always cooperative. Routinely offers useful ideas. Always displays positive attitude. | Usually cooperative. Usually offers useful ideas. Generally displays positive attitude. | Sometimes cooperative. Sometimes offers useful ideas. Rarely displays positive attitude. | Seldom cooperative. Rarely offers useful ideas. Is disruptive. | 3 |
| Cooperation with Others | Did more than others.  Highly productive. Works extremely well with others. | Did own part of workload. Cooperative. Works well with others. | Could have shared more of the workload. Has difficulty. Requires structure, directions, and leadership. | Did not do any work.  Does not contribute. Does not work well with others. | 4 |
| Focus, Commitments | Tries to keep people working together. Almost always focused on the task. Is very selfdirected. | Does not cause problems in the group. Focuses on the task most of the time. Can count on this person. | Sometimes focuses on the task. Not always a good team member. Must be prodded and reminded to keep on task. | Often is not a good team member. Does not focus on the task. Lets others do the work. | 4 |
| Ability to Communicate | Always listens to, shares with, and supports the efforts of others. Provides effective feedback. Relays a lot of relevant information. | Usually listens to, shares with, and supports the efforts of others.  Sometimes talks too much. Provides some effective feedback. Relays some basic information that relates to the topic. | Often listens to, shares with, and supports the efforts of others. Usually does most of the talking.  Rarely listens to others.  Provides little feedback. Relays very little information that relates to the topic. | Rarely listens to, shares with, or supports the efforts of others. Is always talking and never listens to others.  Provides no feedback. Does not relay any information to teammates. | 3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Accuracy -  documentation/coding etc | Work is complete, wellorganized, error-free, and done on time or early. | Work is generally complete, meets the requirements of the task, and is mostly done on time. | Work tends to be disorderly, incomplete, inaccurate, and is usually late. | Work is generally sloppy and incomplete, contains excessive errors, and is mostly late. | 3 |
|  |  |  |  | TOTAL | /20 |

Provide appropriate **measurables/milestones/deliverables** to support your answers for the following questions:

1. How effectively did your group work?
2. Were the behaviors of any of your team members particularly valuable or detrimental to the team? Explain.
3. What did you learn about working in a group from this project that you will carry into your next group experience (e.g. assignment 3)?

Answer:

1. I think the group’s work has been running effectively because we were able to complete the work in Assignment 2. However, I had difficulty managing the time between doing assignment 2 SE and Final Project 1.

2. I think my team behaviors is valuable because he can manage the working time for every work in this assignment. He also did his best to minimize mistake in the assignment by checking and repair the paper

3. I learn to improve my time management and focus on making the assignment to finish the work faster. Discuss with the team member when found any problem while making the assignment.